News of the Industry Begins Page 554

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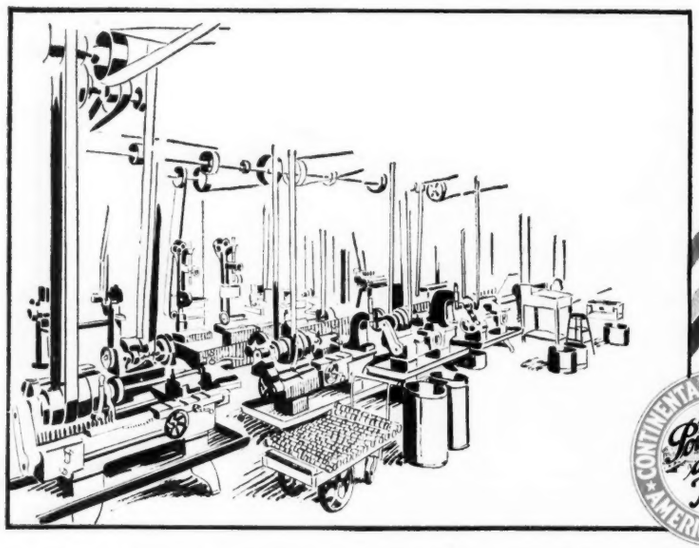

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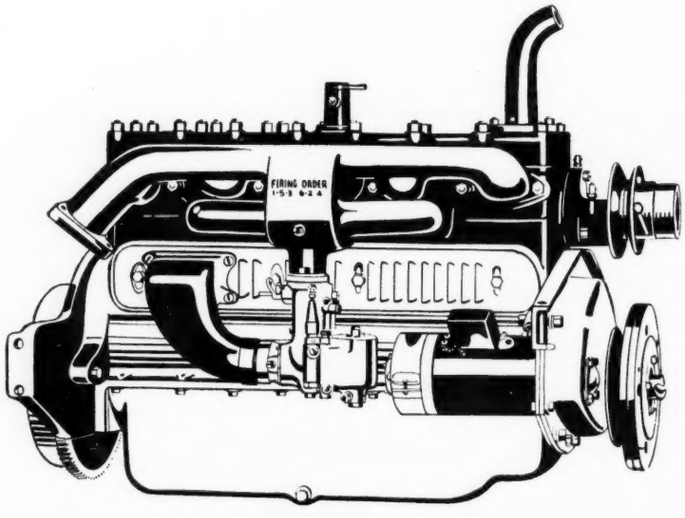


Continental Motors

AUTOMOTIVE INDUSTRIES

VOLUME 57 *Philadelphia, Saturday, October 8, 1927* NUMBER 15

Fourth-Quarter Car Output May Exceed Last Year's *Mark*

General business outlook for next three months encouraging. Dealer stocks in reasonably good condition. Survey indicates that trade is picking up.

By Norman G. Shidle

THE fourth quarter opens with prospects of automotive output exceeding that of the last three months of 1926, with dealer car stocks in reasonably good condition, with the retail sales situation spotty and with the favorable factors in general business far outweighing the unfavorable.

Many automotive executives, a trifle wearied perhaps with the close, introspective scrutiny which has been constantly called for by their own specific problems of late, are turning for the moment to closer examination of those trends and tendencies underlying American business as a whole in an effort to visualize the probable economic outcome of the next three months and the industrial situation which will exist at the start of the New Year.

Usually the automotive industry has found itself in the foremost van of prosperity; generally speaking, it retains that place at present. But in a more temporary sense, it would appear that a view of industry as a whole leads to even more optimistic conclusions about the next three to six months than would mere examination of the automotive industry alone—and there is little to be pessimistic about in the automotive picture.

No great accumulation of inventories appears to exist in most manufacturing lines, despite fairly heavy stocks in some instances. Ample credit is available and money is not tight. Building construction, which many economists have had ticketed for a slump for a year or more, has thus far in 1927 remained above 1926 levels, although some falling off has been recorded in recent weeks. And agriculture, that great source of buying power for the automotive as well as many other industries, is in better condition than for some years past.

These and other signs fail to point to anything in the nature of what we have in the past known as a "slump." Even the closest scanning of the business horizon doesn't reveal anything resembling an incipient economic hurricane.

This being the case, what has happened to that period of depression which the business cyclists have been making us fear for some time back? The spectre of the beginning of a real slump has been posed six months ahead of us for a good while, but

Slump So Slight We Didn't Feel It!

ONE of the leading business authorities in the country makes the interesting suggestion that perhaps we have been through a period of depression since about last March without knowing it.

"I have a hunch," he says, "that the period of declining prices and somewhat curtailed business that has been experienced by many of our manufacturing industries in recent months may have been that dip in the business curve which students of the business cycle have been anticipating, but that the dip turned out to be so shallow that we scarcely noticed it.

"In other words, it wouldn't suprise me if we were to find out that we have been able to achieve in this country something like a tableland of economic stability on which the factors making for business depressions are being so modified and curtailed as to reduce very materially their power for ill-doing."

every time we reach the given point that particular ghoul seems to have moved six months further into the future on some sort of economic time-machine. Some business men, among them certain automotive executives, are beginning to believe that the Ghost of Depression isn't any more real nor any more actually to be feared than the bogeyman of our childhood tales.

The particular brand of determined optimism referred to can't help but impress a good many hard-boiled economists and other executives as perhaps a bit unreasoning in its faith. As a matter of fact, no reputable business student can be found who would be foolish enough to say that nothing like a real slump could happen again. It is significant, however, to note the remarks made informally and confidentially the other night by one of the most universally accepted and respected students of business trends in the country. Here's about what he said to a small group:

"I've begun to wonder if we haven't been through a period of depression since about last March without knowing it. I have a hunch—and it is only a hunch—that the period of declining prices and somewhat curtailed business that has been experienced by many of our manufacturing industries in recent months may have been that dip in the business curve which students of the business cycle have been anticipating, but that the dip turned out to be so shallow that we scarcely noticed it. In other words, it wouldn't surprise me if we were to find out that we have been able to achieve in this country something like a tableland of economic stability on which the factors making for business depressions are being so modified and curtailed as to reduce very materially their power for ill-doing.

"I have an idea," he continued, "that we have nearly reached the bottom of the descending price index and that business just now may be set for a reasonable upturn rather than for further downward movements as regards prices and sales."

However accurate this appraisal of the situation turns out to be, it comes from a source fully worth serious attention from every automotive executive and advances an interesting basis for other speculations concerning the future.

Foreign Trade Prospects

As regards foreign trade developments, as well, several underlying factors are appearing which tend to brighten rather than dull the roseate picture of export automotive development which has been painted frequently in recent months. The Economic Conference at Geneva, informal reports indicate, developed none of the antagonism to nor criticism of Americans and American methods which have been expected by some; there was no heckling nor harassing of the American delegates; questions asked and discussion indulged in turned out to be on a thoroughly friendly basis. Practically all of the discussion of tariff barriers which went on at that conference, reports indicate, had to do with attempts to break down the barriers separating the various European nations from one another and only to a slight extent with the American tariff as related to European imports.

These indications that anti-American feeling abroad is not so strong as some would have us believe is brought out by the following statement made recently by E. F. Roberts, editor, *Dry Goods Economist,* recently returned from several months survey of the European business situation.

"I would like to register my emphatic disagreement," Mr. Roberts writes, "with the far too frequently repeated statement that there is a deep hostility to America and Americans in Europe. Unfortunate incidents have occurred, notably in Paris, but in every case of which I have any knowledge they have been precipitated by the offensive conduct of ignorant or ill-mannered American tourists. In my travels, which took me practically all over France and a large part of Central Europe as well as England, I never met with a single incident of discourtesy nor found any evidence of ill feeling toward this country. There was, of course, considerable envy of American prosperity but this was purely abstract and meant no more than the very human feeling of the poor man toward his rich neighbor."

A Fundamental Factor

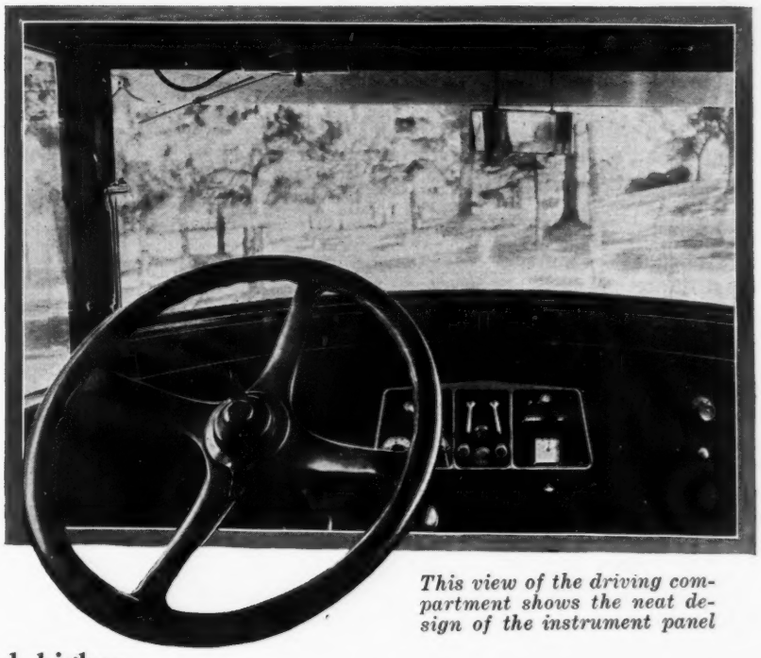
There can be little doubt that the decrease in antipathy toward America in general will be a fundamental factor of some considerable importance in determining the progress of American automobile, parts and accessory sales in Europe during the next decade. In estimating the influence of this factor, moreover, it probably would be well not to give too much weight to specific instances of conflict which occupy large public attention because of their immediate importance in a news way.

The current squabble with France over tariff barriers, perhaps, might be a case in point. While definite information on the subject is difficult to get, it seems likely that what the U. S. Government is objecting to is not high French tariffs *per se,* but to the refusal of France to grant to us the same terms as those given to other nations. France is one of the three nations with which the U. S. does not now have "most favored nation" treaties. Progressive thinkers on international economics seem to be pretty generally agreed that the idea of preferential tariffs is one which belongs to the past rather than the future of economic relationships, and that, while retaliatory weapons are ready at hand for use by our Government, those weapons will not be used if there is any other way out.

It is on the basis of these broadly favorable aspects of the economic picture that automotive executives are looking with confidence toward a continuance of business stability and perhaps even an acceleration of automotive prosperity in the months that lie ahead.

Nearly as encouraging, moreover, is the picture revealed when that portion of our economic situation covered specifically by the automotive industry is brought under the magnifying glass. This is indicated by the telegraphic reports from *Automotive Industries* correspondents received this week. Details of these reports appear on pages 560-61.

Franklin "*Airman*" Has Larger Engine



This view of the driving compartment shows the neat design of the instrument panel

Increased piston displacement and higher engine speed give 24 per cent more horsepower. Four-wheel brakes.

By P. M. Heldt

INCREASED piston displacement and increased engine speed—peaking speed—account for an increase of more than 24 per cent in engine horsepower in the new Franklin model, known as the Airman.

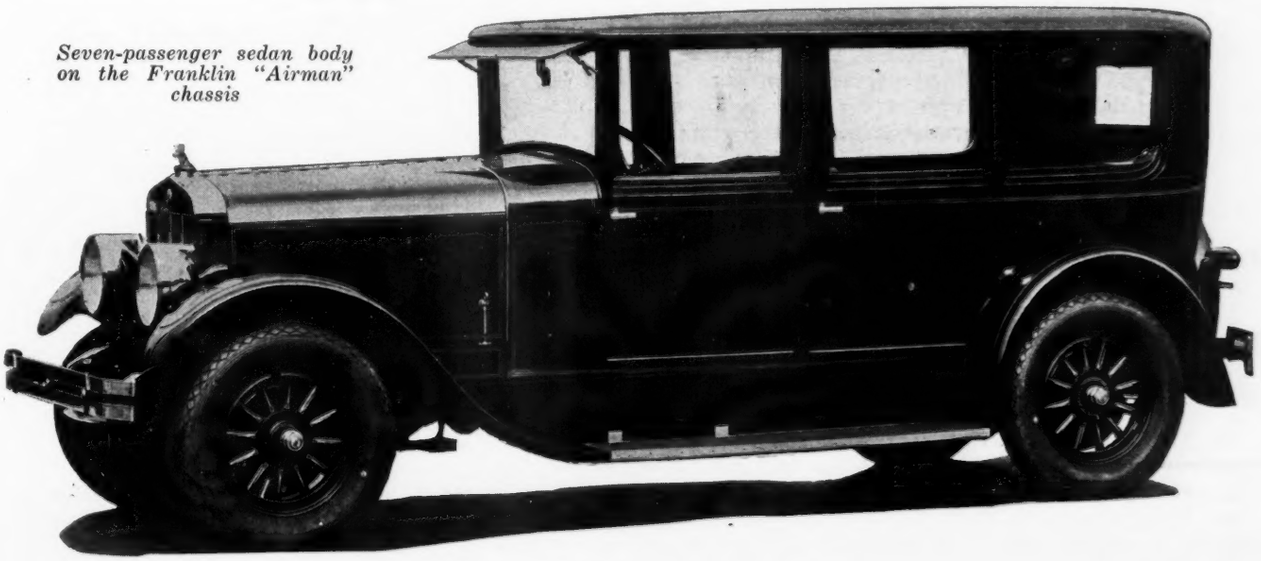
For the first time in years the Franklin company offers seven-passenger models, and these deviate from the rest in having a pressed steel frame instead of the wood-sill frame continued in the other models. A change has been made in the electrical equipment of the car. The rear axle has been completely redesigned, and four-wheel brakes—Lockheed hydraulic of the internal type—are standard equipment.

Although the adoption of four-wheel brakes and the increase of piston displacement have added somewhat to the weights of the different models, the performance has been markedly improved, as the proportional increase in power is greater than the increase in weight. The engine is notable for smoothness of operation, even at the highest speeds, which is ascribed to the use of a fully counter-balanced crankshaft supported in seven bearings and of very light reciprocating parts—aluminum alloy pistons and duralumin connecting rods. This smoothness of the engine, together with the full-elliptic springing of the chassis, which is continued unchanged, makes the new Franklin a particularly comfortable vehicle at all speeds.

More mechanical changes have been made by Franklin this year than for quite a number of years past, while the body structures are continued without serious alterations, except for the seven-passenger types, which are entirely new.

While the bore of the engine remains 3¼ in., the stroke has been increased from 4 to 4¾ in., increasing the displacement of the six-cylinder engine from

Seven-passenger sedan body on the Franklin "Airman" chassis



199 to 236 cu. in. A larger venturi is now used in the carburetor, whereby the volumetric efficiency has been increased, and the compression pressure at 1500 r.p.m. is now 80 lb. gage, instead of about 77.5. The engine peaks at 2600 instead of 2250 r.p.m.

With the increase in power additional heat has to be disposed of by the cooling system, and this is taken care of by the increased length of the copper cooling fins. The air duct is now made in three parts instead of in two, as with the old style of construction it would have been impossible to remove the air hood from under the bonnet, owing to the increased height of the engine. Nickel iron is used in the cylinder castings.

Valves have been increased in size and their capacity has been further increased by casting the cylinders with recesses around the outer part of both valves, so as to give the charge an opportunity to flow uniformly through the valve opening. The intake valves, which are of the tulip type, have a clear diameter of 1⅜ in. and a list of 9/32 in., while the exhaust valves have a clear diameter of 1-5/16 in. and a lift of 5/16 in. Both valves are adjusted to a clearance of 0.010 in. when hot. Double valve springs have been adopted, one spring within the other, whereby it has been possible to greatly reduce the stress in the spring material. The spring washer retaining means has been changed to the conventional split cone entering into a recess cut in the valve stem. The inlet valves are made of vanadium steel and the exhaust valves of silchrome.

Chromium-Plated Piston Pins

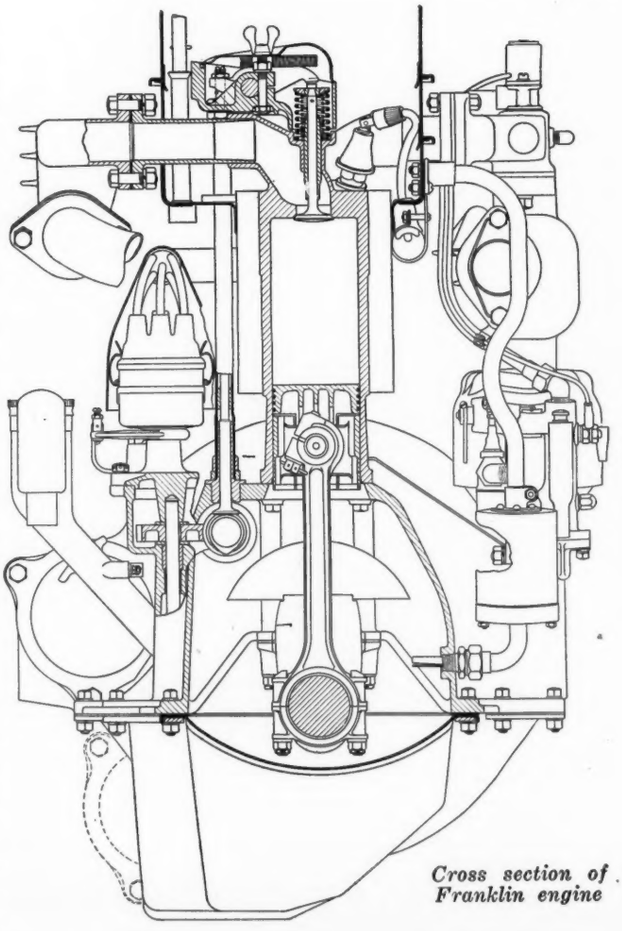
The pistons remain the same as in the Series 11, and so do the piston pins, except for the fact that the latter are now chromium-plated so as to make them more resistant to wear and also more resistant to corrosion. Duralumin connecting rods are continued, but are longer (9½ in. center-to-center length) and also of larger section, on account of the longer stroke. The crankshaft bearings are of the same dimensions as previously, the increase in the bearing loads resulting from the longer stroke and the higher maximum speed being more than balanced, in the case of the main bearings, by the use of counterweights on all crank arms. These counterweights are secured to the arms by two cap screws each, the screws being securely locked. The rotor of the blower at the forward end of the crankshaft has a flexible (rubberized fabric) mounting, which is undoubtedly a factor in the smooth operation of the engine.

The Type T-2 Stromberg carburetor is now used instead of the OE. It has an auxiliary gasoline needle valve which is opened by the choke control, this resulting in the supply of additional fuel as long as the choke is in a closed or partly closed position. The accelerator well is provided with a thermostatically controlled bleeder valve which has the effect of maintaining more fuel in the accelerator well in cold than in warm weather.

The electric primer for use when starting in cold weather is retained, as is the air cleaner on the carburetor inlet. The charge on leaving the carburetor passes through an exhaust jacketed heater and thence through a Swan manifold to the inlet valves. Fuel is carried in a 15-gal. rear tank with a 2-gal. reserve compartment. A Nagel gasoline gage is mounted on the instrument board. Feed to the carburetor is by the Stewart vacuum system. Like the intake manifold, the exhaust manifold is of the Swan type, of substantially square section. An exhaust pipe extends from the latter around the front of the engine to the charge heater on the inlet side whence another pipe extends to the Powell muffler. The latter has been changed slightly in design so as to reduce the exhaust back pressure. Both manifolds are finished in dull nickel.

The North-East ignition system is now used. It is of the closed circuit type with automatic spark advance. An improvement in the reliability of ignition at both ends of the engine speed range is claimed. Hand control for the ignition is provided on the instrument board, but this is not intended for use in regular driving. The starter and generator are of Owen-Dyneto make, the former being designated the Type L-2407 and the latter Type L-2411. The generator is driven through the front end chain, as formerly, and the starter has a Bendix drive. A quickly removable cover is placed in the housing over the Bendix drive pinion, so in case the pinion sticks for any reason it can be quickly inspected and freed. The battery is the same 19-plate, 135-amp.-hr. Willard as used last year.

While the principle of the engine lubrication system remains the same, the details have been materially changed. The characteristic feature of the Franklin lubricating system is that it feeds oil from a pressure pump to each bearing to be lubricated separately through a distributor, instead of through a header supplying all bearings in parallel. However, where formerly the pump, distributor and connecting tubes were outside the crankcase, they are now all located on the inside, considerably cleaning up the



Cross section of Franklin engine

engine. Instead of eight there are now nine leads from the oil distributor, one running to a Purolator oil filter on the forward side of the dash. The valve rockers are lubricated by means of a pad attached to the cover plates. The bearings for the rocker arms have been increased in size and are now bronze bushed. A gage indicates the amount of oil in the crankcase.

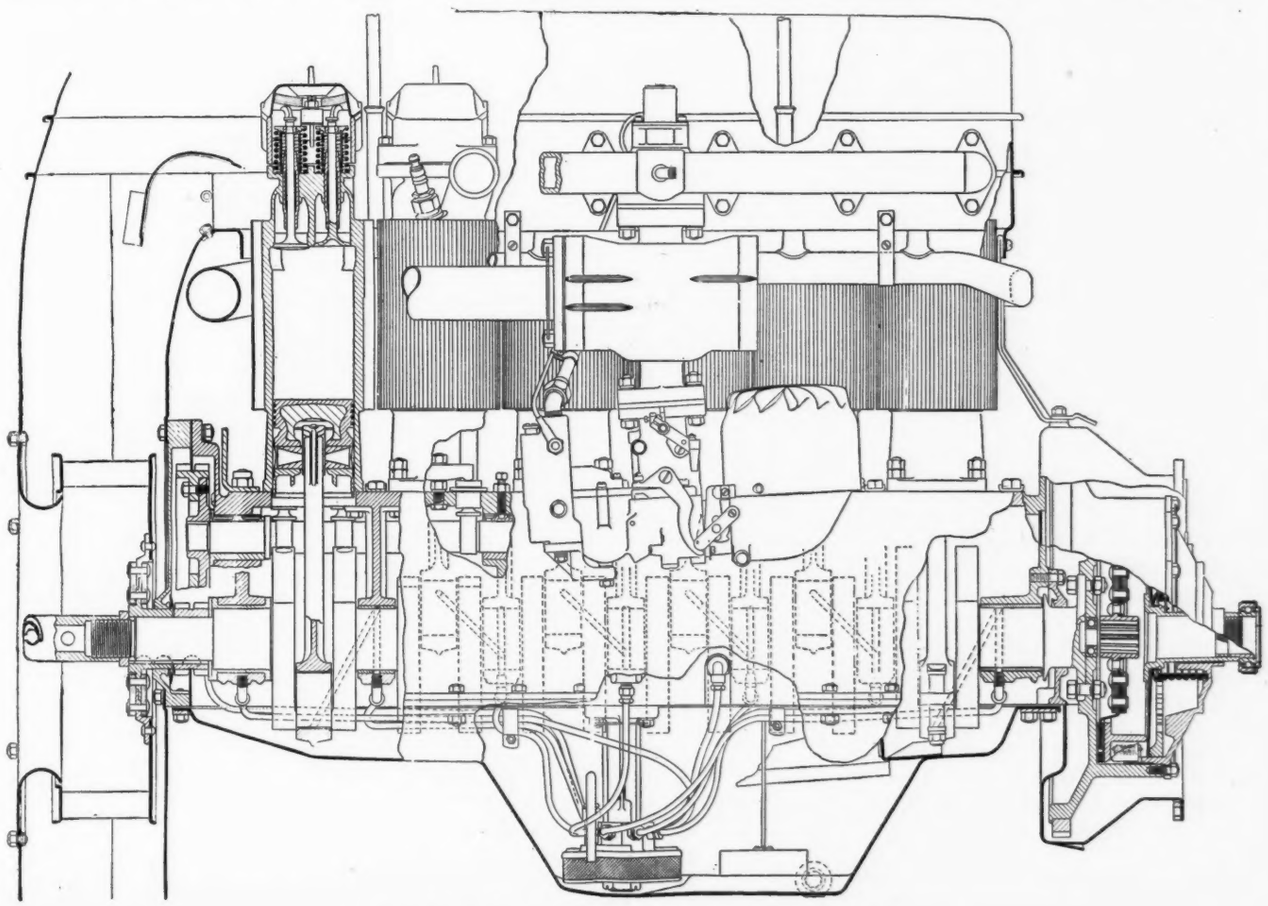
Of interest in connection with the oiling system is the method of ventilating the crankcase. A lead is taken off from the air duct of the cooling system on the carburetor side of the engine and extends down to an air filter at the side of the crankcase. From the filter there is a short connection to the forward part of the crankcase, this connection containing a thermostatically controlled valve. When the oil in the crankcase is at 120 deg. Fahr., or more, this valve is closed and the ventilating system does not function, for under these conditions combustion of the fuel is reasonably complete, hence there is no appreciable crankcase dilution, and there is also no danger of moisture condensing in the crankcase. On the other hand, when the engine is cold the valve is open and the over-pressure in the air header causes air from the header to enter the crankcase near the front on the carburetor side and to leave it near the rear on the exhaust side through the combined relief pipe and oil filler. This device is of novel design. The oil filler tube, which of necessity extends upward, is covered by a dust-tight cap, so that no dirt can enter the crankcase through it. The pressure relief tube extends downwardly and discharges below the engine filler plate, which not only tends to keep the side of the engine free from oil vapor but to increase the ventilating effect, for the reason that the discharge is into air at atmospheric pressure, instead of into air at over-pressure, as under the hood.

It is claimed that this crankcase ventilating system will completely eliminate trouble from crankcase corrosion. The only part inside the engine which is ordinarily subject to corrosion and beyond the influence of the ventilating system, the piston pin, is chromium-plated and therefore rust-proof. It is recommended that the filtering medium in the air-cleaner of the ventilating system be removed and cleaned once a year, at the beginning of winter. With the new crankcase ventilation system the Franklin company recommends that the crankcase oil supply be renewed every 1500 miles in summer and every 1000 miles in cold weather.

Pressed Steel Crankcase

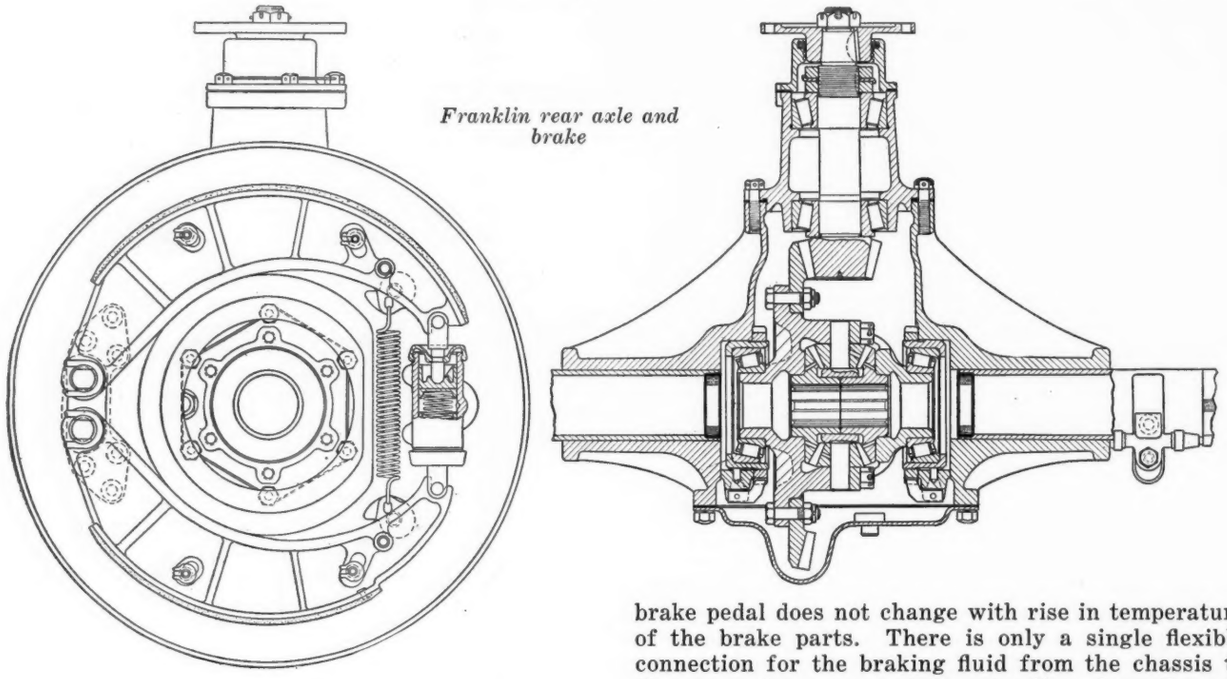
All of the elements of the engine lubricating system being now on the inside, the crankcase lower half is made of pressed steel instead of aluminum, and it can be removed without disturbing parts referred to.

Only one change has been made in the Brown-Lipe single-plate clutch, which, as last year, has a flexible rubberized fabric center. This consists in providing the driven disk with holes near its rim, so as to reduce its spinning weight. The transmission also remains substantially the same, but the transmission lock has been replaced by an Electrolock mounted on the instrument board. A reversing light switch is now mounted on the transmission case, automatically lighting up a powerful lamp at the rear of the car when



Longitudinal section of Franklin engine and clutch

the gear is thrown in reverse. Directly to the rear of the transmission case there is a brake drum, but this serves now for the emergency instead of the service brake; so, although the diameter of the drum has not been changed and the brake is as powerful as formerly, when it served as the service brake, the plication differs in having die-cast aluminum brake shoes. One advantage claimed for these is that the greater co-efficient of heat expansion of the aluminum in the shoes compensates for the greater temperature rise of the steel drums, hence the clearance is not affected by heating in service and the position of the



Franklin rear axle and brake

width of the lining has been decreased from 4 to 2 in.

Spicer universal joints and propeller shafts are retained, but the hollow propeller shafts, instead of being 1½ in. in diameter as formerly, are now 2 in. in diameter on the 119-in. wheelbase, and 3 in. in diameter on the 128-in. wheelbase model. A guard of sheet metal is fitted over the rear universal joint to prevent any grease from the joint being thrown onto the rear wheels.

The rear axle has been completely redesigned, but is of the same general type as the former axle; that is, it has a cast aluminum center housing with pressed steel rear cover and steel axle tubes. The pinion shaft is now supported in two Timken roller bearings taking thrust in both directions and providing for adjustment. The differential gear also is carried in Timken bearings and has provisions for sideways adjustment. The center housing is heavily ribbed to prevent any sounding board effect. The gear ring is now made with a flat back instead of a stepped back, which facilitates heat-treatment and tends to minimize distortion, hence gives a truer gear.

On the five-passenger chassis a gear ratio of 52:11 is used and on the seven-passenger chassis, 56:11. The axle is of the semi-floating type and the only connection between it and the frame is through the full-elliptic springs, which give the same effect as a Hotchkiss drive. The front axle is tubular, as heretofore, but in view of the increased engine weight and the fact that it now has to support braking strains, it is made of a heavier-walled tube.

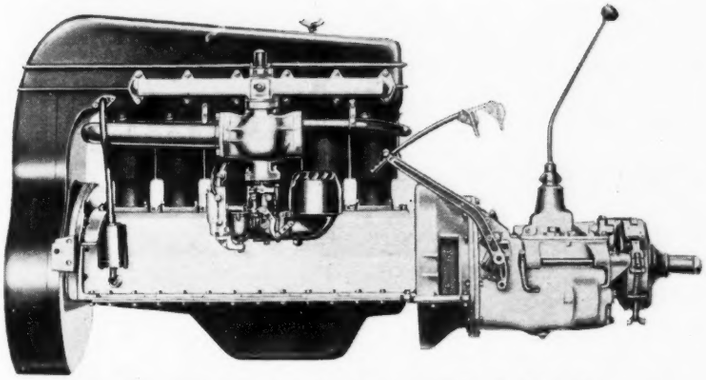
The new Franklin model is fitted with Lockheed internal hydraulic four-wheel brakes with automatic compensation for loss of fluid from the system. These brakes have been described in these columns in connection with another application. The Franklin ap-

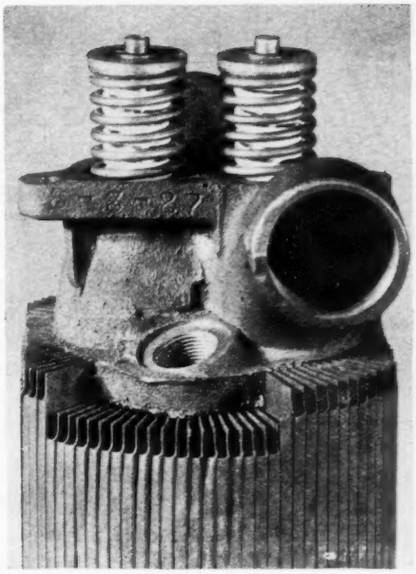
brake pedal does not change with rise in temperature of the brake parts. There is only a single flexible connection for the braking fluid from the chassis to the rear axle, a copper tube extending along the axle housing to the brake cylinders at the two wheels. The emergency brake is operated by a lever to the left of the driver.

The steering gear, which is of the worm and sector type, is of the Franklin company's own manufacture. Formerly a full gear was used instead of a sector, but it was a helical gear which theoretically gives point contact, whereas the sector now used is of a worm wheel (throated), giving line contact, and longer life is expected from the new construction. The steering post has been increased in diameter to give greater clearances between the concentric tubes within it. These tubes are now separated by anti-rattle spring bushings. Adjustment of the mesh of the worm and sector is affected by means of an eccentric bushing

Complete Franklin Line With Prices

Type	Passengers	Wheelbase	Price
Sedan	5	119-in.	$2,790
Oxford	5	119-in.	2,815
Sport Sedan	5	119-in.	2,910
Victoria	4	119-in.	2,740
Coupe	3	119-in.	2,490
Convertible Coupe	3–5	119-in.	2,925
Chassis	..	119-in.	2,000
Sedan	7	128-in.	2,980
Oxford	7	128-in.	3,015
Limousine	7	128-in.	3,080
Sport Runabout	2–4	128-in.	2,975
Sport Touring	5	128-in.	2,975
Touring	7	128-in.	3,060
Chassis	..	128-in.	2,050





Franklin powerplant, showing pressed steel engine pan and general clean-up of crankcase. Right—Upper part of air-cooled cylinder with dual valve springs

on the sector shaft. The reduction ratio of the steering mechanism has been increased from 8:1 to 10-1/3:1. Long bronze bushings replace the ball bearings formerly used in the Franklin steering gear. The steering arm is now fastened to the sector shaft by splines instead of by two Woodruff keys. The drag link has been stiffened. With the steering gear as redesigned the 119-in. wheelbase car has a turning circle of 39½ ft. For the export market Franklin this year for the first time furnishes cars with right hand steering.

The steering post is pivoted at its lower end on a frame bracket and can be adjusted to four different angles by means of the dash bracket. Likewise the brake and clutch pedals are so designed that they can be adjusted to suit drivers of different size. Two finger levers, for the throttle and the headlight control, respectively, and a horn button are mounted on top of the steering wheel. The headlight control switch is located at the top of the steering column.

Instruments and control devices are arranged symmetrically on a three-paneled instrument board set into the cowl board. This instrument board has a border with a hammered silver effect. The dial instruments are mounted in the two outer panels while the center panel contains the control devices. Indirect illumination is used for the instrument board and can be shut off if it interferes with the driver's view of the road.

Zerk Chassis Lubrication

As already pointed out, the same wood sill frame which has been characteristic of Franklin construction for many years is retained in the 119-in. wheelbase chassis, while the 128-in. wheelbase chassis is built with a pressed steel frame. This frame, which has side channels with a 6½ by 2 by ⅛ in. section, has a slight drop at both front and rear. Very few cross members are used, and the frame is decidedly flexible, in which respect it resembles the Franklin wood sill frame. The body mounting on the frame is also the same as in the case of the wood sill frame models; that is, the body, instead of setting directly on the frame side members, rests on brackets on the outside of these members. Chassis lubrication is by the Zerk system.

Tires are 32 by 6 in. on the 119-in. wheelbase models and 31 by 6.20 in. on the 128-in. wheelbase models. They are mounted on Rubsam demountable rims of 20 and 19 in. diameter respectively, on artillery wood wheels.

The weight of the five-passenger sedan has been increased from 3320 to 3600 lb., a matter of 280 lb. The chief cause of the increase in weight is the adoption of four-wheel brakes, while the increase in the displacement of the engine also contributed a share. The seven-passenger sedan weighs about 200 lb. more. In spite of these weight increases the acceleration has been markedly improved. The five-passenger sedan will now accelerate from 5 to 25 m.p.h. in 7¼ seconds, as compared with 9 seconds for the Series 11, and from 10 to 40 m.p.h. in 14 seconds, as compared with 19 seconds. The car accelerates from 20 to 50 m.p.h. in 17 seconds.

Changes have been made also in the body trim and equipment. Two shades of broadcloth are used for the upholstering of the closed models, a darker shade for cushions, back and arm rests, and a lighter shade for sides, doors and headlining. Pasting lace is eliminated and kick carpets are provided at the bottom of the doors. Doors are edged with a seaming lace having a cord effect, and a woven molding is applied around the seat backs, body pillars and roof lines. All mountings are of new pattern with a hammered silver finish, inlaid with a fine border line of black. Remote control handles for the door locks are now provided. Additional room is obtained in the front compartment by forming the dash with a recess in which the rear cylinder of the engine stands.

A lower effect is secured on all models by bringing the top of the wheed house 1 in. closer to the tire and lowering the running board 1 in. Actually the cars are quite low, for the sport sedan, with an inside height of 46 in., has an over-all height of 71 in., and the regular sedan, with an inside height of 48 in., has an over-all height of 73 in.

In the sedan, sport sedan and limousine, a redesign of the front pillars has made it possible to narrow them ¼ in. transversely to the line of vision from the driver's seat, and thus to increase the "clear-vision" effect.

In the new seven-passenger sedan body the seats are built with a backward tilt and 1 in. lower. The two auxiliary seats are arranged in floor wells of the rear compartment and when folded set closely against the back of the front seat, which is cowled to add to the leg room in the rear compartment. Upholstering of this model is in broadcloth of a plain weave.

Jordan Uses *Double-Inlet* Manifold on New *Air Line* Eight

Novel design is calculated to eliminate trouble from unequal distribution which sometimes occurs in eight-in-line engines. Car now in hands of dealers.

By A. F. Denham

THE new Jordan model known as the Air Line Eight, characterized by its similarity of appearance to the Little Custom Jordan and endowed with an abundance of power, which was announced in *Automotive Industries* several weeks ago, is now in the hands of dealers. Since the first announcement was made additional details have become available and are given below.

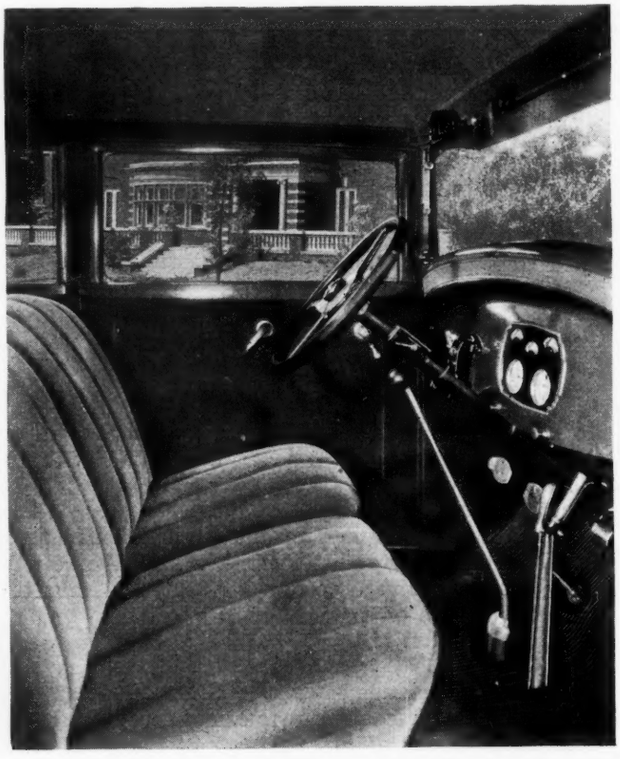
Featuring the chassis is a novel fuel and intake system designed to eliminate trouble from unequal distribution which sometimes occurs in eight-in-line engines owing to two cylinders drawing a charge at the same time through a given section of the manifold. Aside from the change mentioned and, a larger bore of the engine, the chassis bears much similarity to the Jordan Model J, its components including a Long single plate clutch, Warner Gear Co. transmission, Spicer universal joints, Timken axles, Mather semi-elliptic springs, Lockheed hydraulic four-wheel brakes, and a new type of steering gear manufactured by Gemmer.

The bodies are similar in appearance to those on the Little Custom Jordan, but, of course, larger, the car having a wheelbase of 116 in. Pains were taken in the design to keep down the length of wheelbase, the same as in the small six, in order to facilitate handling in traffic, parking, etc., while, on the other hand, due attention was given to roominess, and comfort in riding.

Several departures are embodied in the engine, which was developed from the Continental 8-S. With cylinder dimensions of 3 x 4¾ in., giving it a piston displacement of 288.6 cu. in., the maximum power has been increased from 64 to 85 hp. at 3100 r.p.m., the comparison being with the Model J engine. As for torque, a power curve of the engine shows that this attains a maximum of 170 lb.-ft. at 1600 r.p.m., dropping to 144 lb.-ft. at the speed of maximum output.

This increase in performance is credited chiefly to the new intake manifold design. The cored-in manifold has been done away with entirely. The new manifold has really two sections, the outer section supplying cylinders Nos. 1, 2, 7 and 8, while the inner section supplies cylinders Nos. 3, 4, 5 and 6. The two sections of the manifold communicate through a copper tube, this being found desirable in order to equalize the suction.

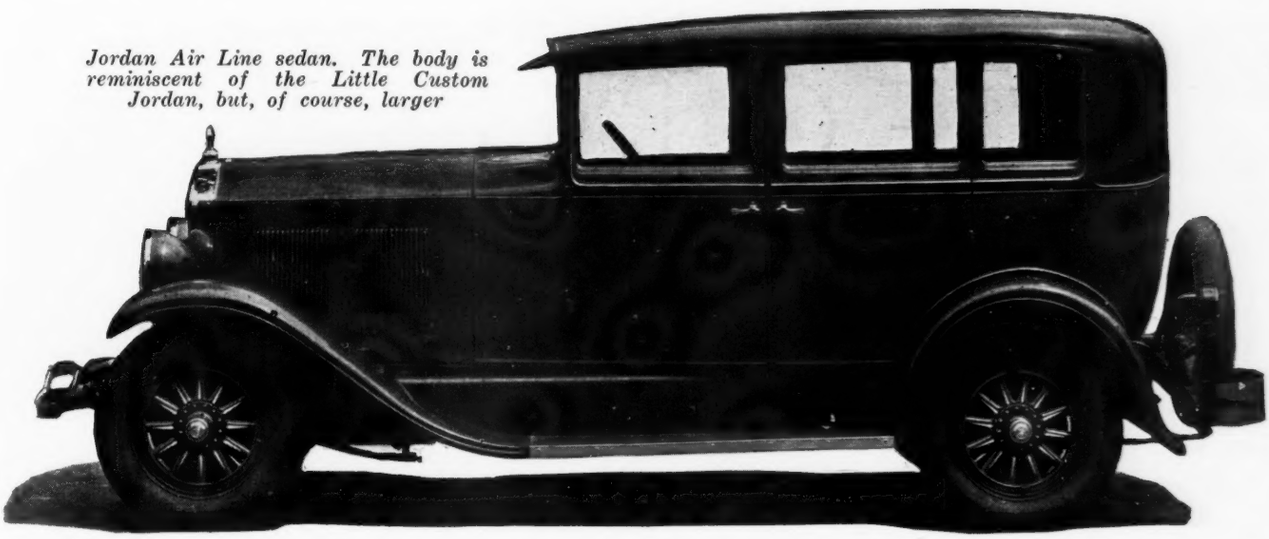
Incorporated in the manifolding is a hot spot around the central portions, jacketing both intake manifolds. The valve for this hot spot is located near the jacket itself, and the pipe from the jacket joins the exhaust manifold back of the engine in a V, so that the bulk of the exhaust gas passing by this opening produces an ejector action. With this design there is also partial heating of the intake manifold with the valve closed, due to turbulence in the exhaust manifold jacket.



Driving compartment of Jordan Air Line Eight

The main features of the 8-S engine are retained, but the pistons are of the Nelson type instead of a standard cast-iron design. The five-bearing crankshaft remains unchanged, including the 2⅝-in. main, and 2¼-in. crankpin bearings. Alloy steel connecting rods, Morse chain front-end drive, full pressure lubrication and a Lanchester damper are continued.

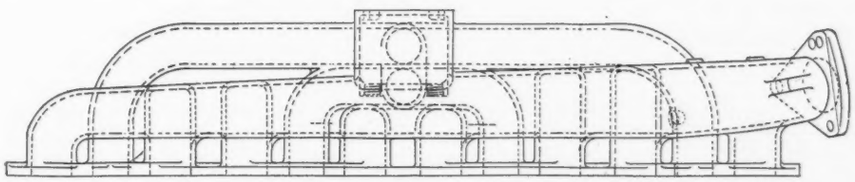
Jordan Air Line sedan. The body is reminiscent of the Little Custom Jordan, but, of course, larger



The valves are made of silicon chromium steel, as previously, and double valve springs are used. Exhaust closing and intake opening take place simultaneously at 8 deg. past the top dead center.

Autolite electrical equipment is standard on the Air Line Eight. Semi-automatic advance is used in connection with the ignition system, 15 deg. of manual advance supplementing 24 deg. of automatic. Bendix starter engagement and third brush regulation are used in the starter motor and generator respectively.

Mounted in unit with the engine are the Long clutch and the Warner transmission. The latter has a reduction of 3.12 to 1 in low. All transmission bearings are either of the ball or roller type, the main shaft being mounted on ball bearings, while Hyatt roller bearings are used for the countershaft, splined shaft, pilot and clutch pilot.



Double-inlet manifold used on the Air Line Eight

Spicer metal universals and a tubular propeller shaft are used. The rear axle is of the semi-floating type and two reductions are available, the pinion having 11 teeth, and the ring gear either 45 or 49. A Hotchkiss drive is used. Two-inch springs are filled at both front and rear, the front springs having a length of 37 in., the rear springs of 55¾ in.

The hydraulic brakes are of the contracting type on all four wheels, using 14⅜-in. drums, 2 in. wide. A transmission brake is operated by the emergency lever, this brake having a drum diameter of 8 in. and lining 2½ in. wide.

Drop-forged I-section front axles of 55½-in. tread are used. The new Gemmer steering gear, which has a reduction of 18 to 1, is of the worm and roller type. The worm, however, has the shape of an hour-glass.

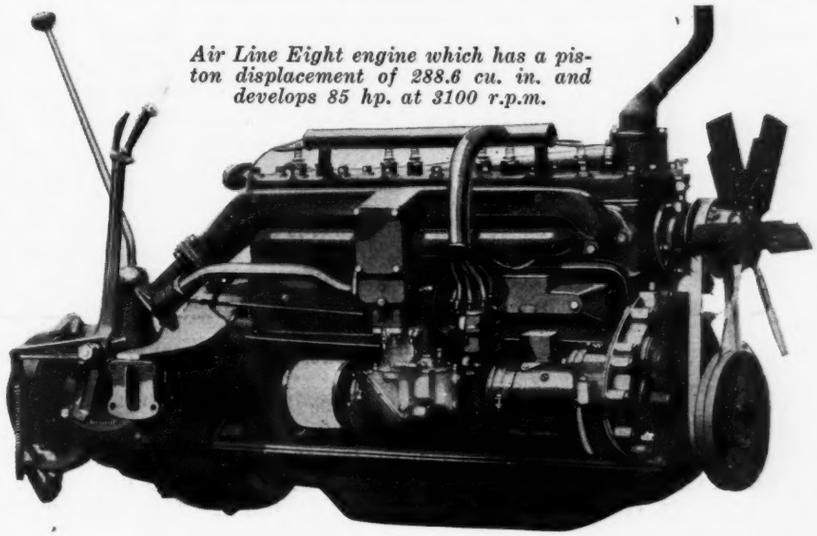
Wheels Exceptionally Small

Wheels are exceptionally small for a car of this class, 18-in. wheels being used with 30 x 6.00 in. balloon tires, giving the car a low center of gravity. Rear axle clearance is 8 in. Frames are similar to those used in the Jordan J. They are very rigid, using 6-in. channel steel side members, with three gusseted and three tubular cross-members. Alemite fittings are provided for chassis lubrication.

At the present time the Jordan Air Line Eight includes three distinct body models, all listing at $2,195. These consist of a standard five-passenger four-door sedan, a four-passenger victoria and a Playboy coupe. The latter model is offered in two styles, one with a permanent and one with a folding top.

Standard equipment on all models includes an oil filter, air cleaner, heat indicator on radiator, dash gasoline gage, electric clock, coincidental steering and ignition lock, combination stop and tail-light, double filament headlights. Houdaille shock absorbers all around, cowl ventilator, and Fedco number plate.

Air Line Eight engine which has a piston displacement of 288.6 cu. in. and develops 85 hp. at 3100 r.p.m.



THE FORUM

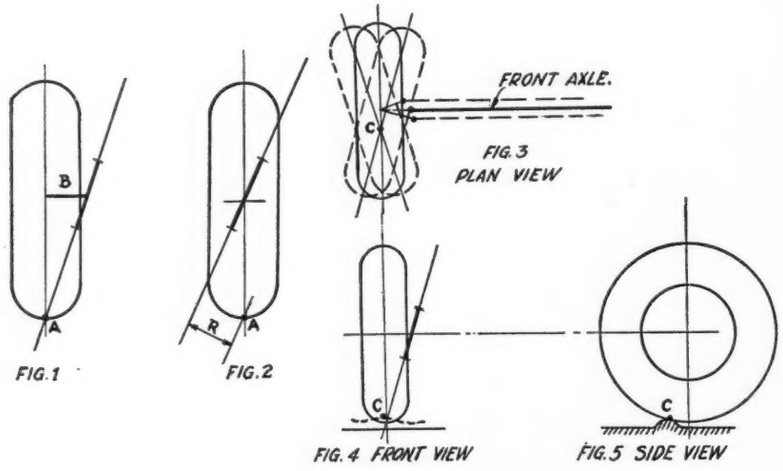
Cause of Wheel Wobble

Do the wheels act according to the text books? Easy to account for shimmy in old cars. Jerking the steering wheel will remedy it.

Editor, AUTOMOTIVE INDUSTRIES:

After reading Mr. Chesnutt's explanation of leverage of front wheels around the king pin, as it appeared in the Forum of the Aug. 20 issue, one feels wobbly about the principles one learned in his freshman days.

In order to regain his equilibrium one must try to apply the above-mentioned viewpoint in extreme cases, such as shown in Figs. 1 and 2, and see whether the wheel would do one thing that it should not do according to the textbooks, and on the other hand, whether it would refrain from doing another thing that it should do if the textbooks are right.



In the first figures, if a force is applied at point *A*, which is the intersection of the king pin axis with the tire surface—the wheel should rotate around the king pin under the influence of that force, which it will not, due to lack of leverage, no matter what direction the force has.

On the other hand, by moving the king pin into the center of the wheel (inclined, of course, but that does not seem to matter in the article referred to), the wheel should refrain from turning around the king pin if acted upon by a force applied at the bottom of the tire, but which it certainly will do, due to lever *R*.

Wobble on a car which is well fitted for shimmy studies due to its vintage or make can be explained without revolutionizing the laws of mechanics.

In the first place, it should be borne in mind that a wheel afflicted with the wobble can turn a few degrees either way from its course without turning the steering wheel at all; this can be proved by jacking up the front axle. Now with a wheel having such a "limited independence" one is driving straight ahead until the wheel strikes a ridge across the road. In 999 cases out of 1000 this force misses the intersection point of the king pin axis with the tire by a thought or two, thereby gaining a slight leverage either to the right or left (in the front view), but in all cases this force acts on the tire ahead of the intersection point (in the side view).

The rest of the story follows in the plan view. Here it can be seen that while the tire is "caught" on the ridge at point *C* for a fraction of a second, the front axle, under the momentum of the car weight, shifts laterally either to the right or the left (according to that slight leverage) until the aforementioned "limited freedom" of the wheel is used up.

And then, as we all know, the fun begins. Observing the dotted position of the wheel, we realize that the steering mechanism suffers quite a severe shock at the hands of the front axle (representing the momentum of the car) and reciprocates the courtesy by an equal elastic reaction. Thereupon the axle shifts over to the other extreme position faster than words can describe; this results in another shock to the steering mechanism and the play of give and take continues until the driver decides that it is time to intervene, gives his steering wheel a generous twist once to the right and then to the left, whereupon the spectre of shimmy departs to the next rough spot ahead on the road.—*A. L. Vargha.*

Left—Fig. 1. Equipment used by Ford for loading and unloading sheet steel. Note the four transfer dollies standing on steel gangway and lift dollies under the steel pile in the rear. Right—Fig. 2. Detail view of the kind of small trucks or dollies used in shifting sheet steel in freight cars.

Ford Sheet Steel *Handling Methods* Save Time *and* Damage

Three men are able to unload 50-ton car in one hour by means of dollies, transfer trucks and crane.

A NEW method of loading and unloading sheet steel from freight cars has been developed by the Ford Motor Co., according to the *Ford News*, which results in important savings in time and expense.

The usual method of handling sheet steel into and out of cars has been manual, two men carrying two or three sheets at a time. By this method it takes about four hours' time on the part of four men to load or unload a 50-ton car. Not only was the operation a long and arduous one, but, with usual methods of piling and handling, damage to the steel and to the freight car was of frequent occurrence. Shifting of the load in the car caused scratches, the use of heavy spikes in fastening the framework employed to hold the piles of steel in position caused abnormal wear and tear to the freight car, and a particularly hard impact, such as might be received during switching operations, might result in the steel bursting its way through the end of the car.

Studies of steel shipments have shown that under usual methods of handling and shipping the damage to the load averages about $2.68 per ton of metal shipped while damage to the car is about $0.41 per ton.

Under the method now employed by Ford, both loading and unloading are greatly expedited and the steel is so distributed and blocked in the car that shifting of the load cannot take place, and damage to steel in transit and to the cars carrying it has been practically eliminated.

The system used revolves about equipment designed for this purpose by the Roura Iron Works, Detroit. This equipment consists of an adequate number of small inexpensive midget lift trucks or dollies, some transfer trucks and a crane. The steel is moved to or away from the car door by a crane. If steel is being loaded it is deposited in piles 8 or 10 in. high on transfer dollies which stand on a steel gangway leading into the car.

Fig. 1 shows the car end of the gangway and several of the transfer dollies. The latter consists of steel platforms mounted about 3 in. above the floor on roller bearing wheels. As shown in Fig. 1, the steel gangway is pierced with holes at frequent intervals and these are used for securing purchase for the bars by means of which the loaded dollies are moved up the gangway.

When the loaded dollies are brought into the car their load is transferred to three lift dollies, shown in the rear of Fig. 1 and in more detail in Fig. 2, which are provided with long handles by means of which the load can be quickly lifted from 3 to 5 in. in a single motion. One man can easily lift from three to five tons by means of these dollies. The load is lifted off the transfer dollies and the lift dollies, running on strips of steel with which the floor of the car has been fitted, quickly move the load back to its proper position in the car.

The loads are placed on stringers of 4 by 4 in. lumber placed lengthwise of the car, in piles of less than a foot high. The car is filled with these piles except for a small space opposite the doors which is filled with a box-like wooden structure to hold the piles in place. Two by four inch spacers separate the individual piles and they also have wedges which take up any slack resulting from small shifting during transit.

The unloading process is simply the reverse of the loading job. Three men are able to unload a 50-ton car in one hour, a saving of about 13-man-hours or 81 per cent of that necessary under former methods. No spikes are used in the car nor in any of the bracing lumber, so that it can all be used over and over again.

American Methods *are* Adopted for Production *of* New Vauxhall

General Motors increases capacity of plant from 40 to 200 chassis a week. Engine of 168.5 cu. in. displacement has overhead valves with masked inlets.

By M. W. Bourdon

THE first new model to be produced by Vauxhall Motors, Luton, England, since General Motors Corp. acquired control of this company will appear at the Olympia Show. It is a high-grade job throughout, and will be known as the 20-60 hp. model. With a wheelbase of 123 in. and a track of 56 in. it

Driving compartment of Vauxhall Six

will be offered with a selection of nine bodies ranging in price from £475 for the five-passenger phaeton to £715 for the inclosed drive limousine de luxe. The standard coach-built sedan will be £495 and the fabric sedan £665.

Notable points of the design include pushrod operated valves, of which the inlets are masked, with a special cam contour permitting clearance of 0.020 in. without valve tap, a new layout for the water circulation, spark plugs inclosed within a chamber with cover plates, a crankshaft with nine bearings (the center and rear ones being divided). Duralumin connecting rods, aluminum valve rockers, four-speed gearset with central control and all gears ground, four wheel brakes and Marles cam steering.

Although the most critical observer could not find a trace of American influence in the chassis design, the plant at Luton bears evidence at every point of reorganization and enlargement with American production methods and equipment. Some details on this score will be given hereafter; meanwhile it may be said that the output capacity of the plant has been increased from approximately 40 chassis per week to 200, though at the outset production is being planned for 100 per week of this new model alone. The 14 hp. four is being dropped, though the high efficiency 30-98 hp. four will be continued in relatively small numbers.

Export business will be handled by General Motors Export Co. from London.

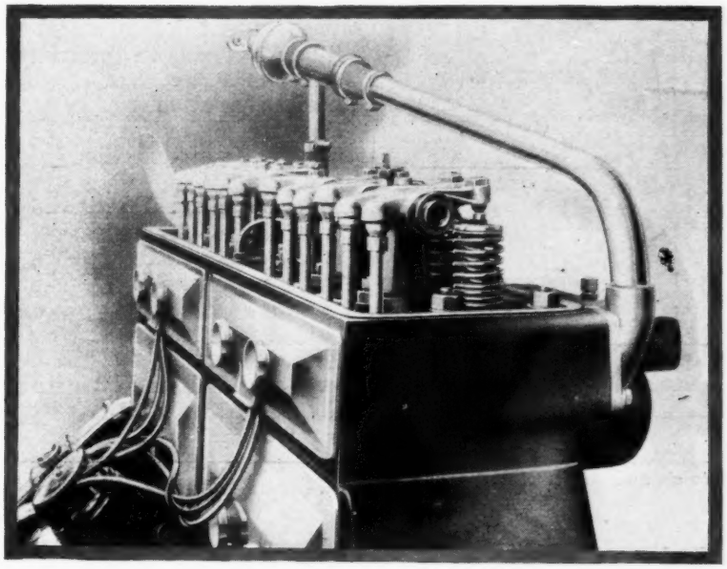
The new model has its six cylinders (2.874 x 4.33 in.) formed as a cast-iron block integral with the upper half of the crankcase, a cast-iron detachable head and under pan of pressed steel. The flywheel housing is bolted on and has arms extended to support the rear end of the unit powerplant on frame brackets. At the front end the timing case has a forward projection bracket secured to the cross member by two bolts.

Nine bearings are provided for the crankshaft, the central and rearmost bearings being divided with roughly an inch between the two sections. Chadwick type main bearings are used. The crank journals are of 2½ in. diameter throughout, the bearing widths being as follows: Front, 1.86 in.; center (Nos. 4 and 5) 1.165 in.; all others 1.085 in. The combustion chamber top is also flat, circular in plan and of 3½ in. diameter.

Flat top, straight-sided cast-iron pistons are used, a reversion from former Vauxhall practice, which included aluminum pistons. Each has two plain rings and a scraper above the piston pin, with return oil holes below the scraper groove; the width of all rings is 0.093 in. The piston pins are of case-hardened mild steel tube, 2.529 in. long and 0.687 in. diameter, floating in the piston and rod with aluminum end plugs. The duralumin connecting rods are 11.25 in. long overall and have 8.7 in. centers; the small end is bushed with duralumin tube 1 in. x .687 x 1 5/16 in., while the big end has a white metal lined shell, the bearing surface being 1 3/16 in. wide on 2⅛ in. diameter pins.

Distribution is by means of a triangulated silent chain for camshaft and generator, with adjustment by

swinging the latter about one of its three flange-fixing bolts. The camshaft has three bearings of phosphor bronze, the dimensions, front to back respectively, being 1.622 in., 2 in., and 1.9334 in. in diameter and 1.9 in., 1.7 in., and 1.5 in. in length. Integral skew gears on the camshaft drive the ignition distributor inclined outwardly on the left of the crankcase and the gear type oil pump inside the sump.



Overhead valve gear of new Vauxhall Six. The spark plugs are inclosed by the two upper cover plates on the left. Aluminum rockers are used with steel ball between pushrods and rocker ends, and also between rockers and valve stems

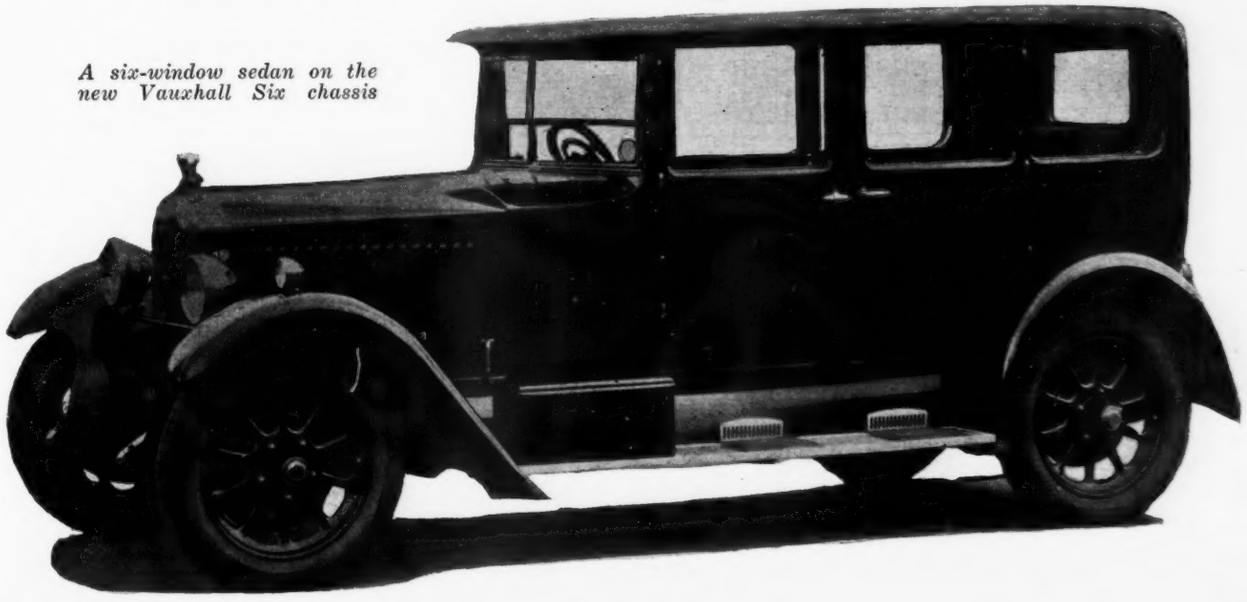
The mushroom cam followers are carried in groups of six in their guides, each of the latter being easily removable as a unit from the tappet chambers which are open to the crankcase and inclosed by an aluminum cover plate. A distinctive feature occurs in the joints at each end of the pushrods. The latter, of steel tube acting upon aluminum "geared-up" rockers, have spherical sockets at top and bottom; the head of each cam follower has a similar socket and so also has the clearance adjusting set-screw at the outer ends of the overhead rocker. Between rod and cam-follower and between rod and rocker is a steel ball of ½ in. diameter. There is another steel ball between the inner end of the rocker and the valve stem, but in this case a flat is ground on the ball to form a contact area for the valve stem. The rocker arms have effective lengths of 1¼ an 1¾ in.

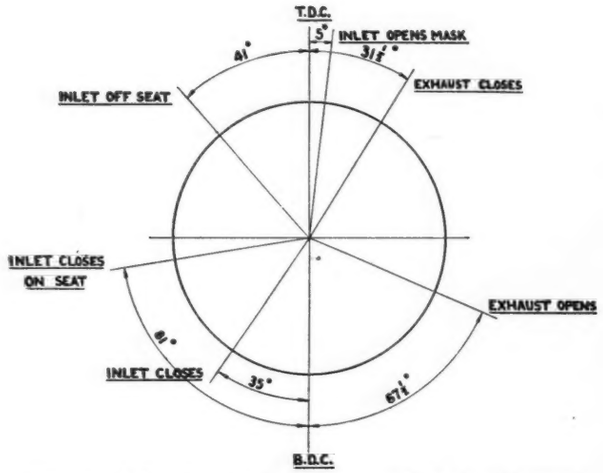
The valves are of 14 per cent chromium steel; they are interchangeable, for the masking of the inlets is secured by sinking the valve seats in the cylinder head. The head is of 1.5 in. diameter, the lift of the inlets is .437 in. and that of the exhaust .250 in. Concentric springs are used, with split cone anchorage.

Lubrication is by pressure and an AC filter is included in a shunt circuit feeding the overhead valve gear. The valve rockers, separated by helical springs encircling the shaft, are drilled at their bearings to the top of the bearing boss, whence oil exudes and runs along grooves on the tops of the arms to the valve contact ball at one end and the pushrod ball at the other. The oil is, of course, fed to the interior of the hollow shaft and through radial holes to the rocker bearings.

Water circulation is maintained by a pump driven by the gear end of the fan shaft. Water is drawn from the bottom of the radiator and delivered to a longitudinal hole cored in the cylinder head, on the left, outside the pushrod holes. This cored hole extends to the center, where it runs half-way across the head toward the right, there finding exit upward into the head jacket. Water delivered to this point runs both backward and forward, there being two outlets, one at the extreme front on the right of the head and the other on the same side at the rear corner. Uniformity of flow toward both ends is encouraged by the different dimensions of the outlet holes into the tapered uptake manifold. There is, therefore, no direct delivery to the actual cylinder jackets, which are kept immersed in water through the usual ports between head and block jackets. A thermostatic valve is inserted between the water uptake

A six-window sedan on the new Vauxhall Six chassis





The masked valves lead to an unusual timing diagram

and the radiator top tank. Adjustment of the endless fan and pump belt is effected by the fitting or removal of distance pieces between the separate halves of the driving pulley on the camshaft.

Neatness in appearance is secured by locating the spark plugs in two chambers on the left of the head casting, closed normally by aluminum cover plates secured by thumb nuts; the cables from the nearby distributor enter each chamber through a rectangular louvre opening downward. Ignition, as stated, is by a Delco-Remy set with semi-automatic advance; the generator, battery and starting motor are of British make (Lucas).

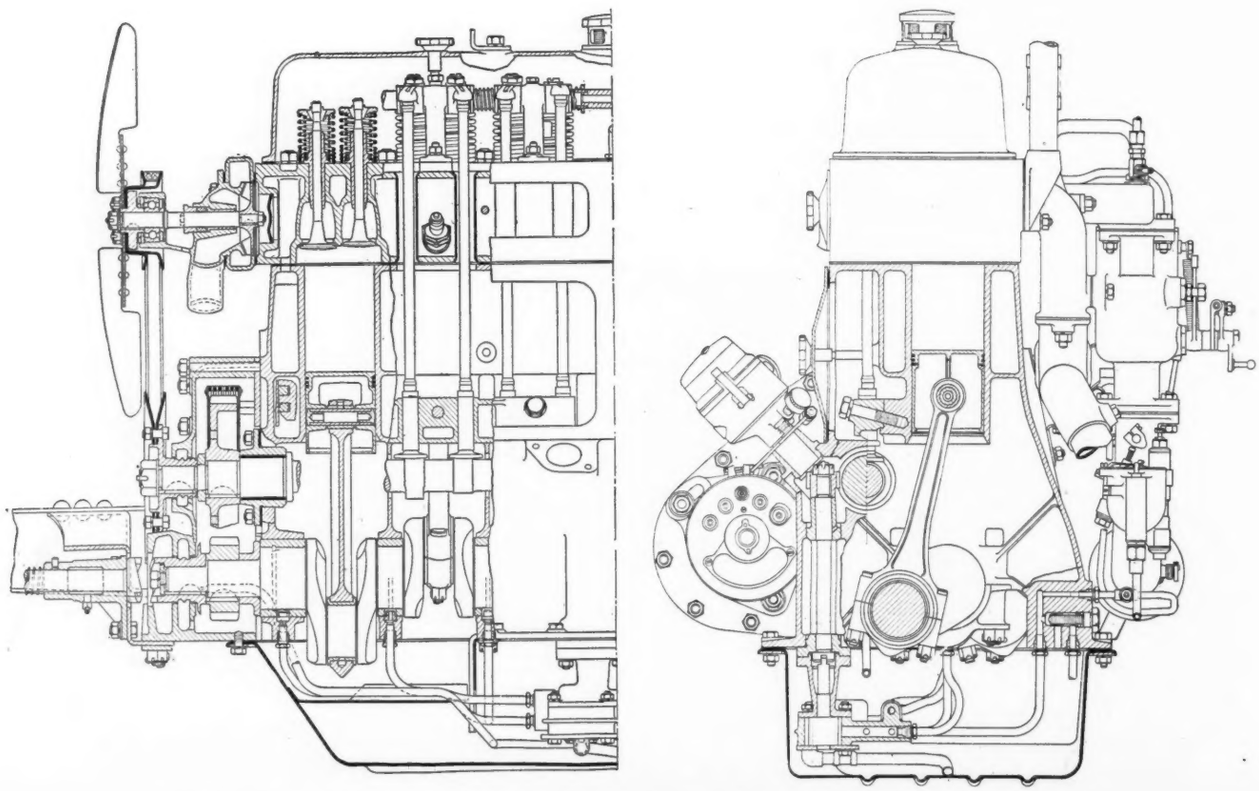
The single Claudel power-jet carburetor on the right has an air-cleaner and is bolted to a Y branch with an exhaust jacket fitted with two heat regulating valves. Vacuum feed is from a rear tank of 14 Imp. gal. capacity with a gage on the instrument board.

A single dry plate clutch is used. The four-speed gearset has single-row ball bearings for the main shaft and straight rollers for the lay shaft. All gears are ground, a gang of five Lees-Bradner machines being installed. The top cover of the gear casing is extended to form a pedestal for the central tubular lever. It contains the rod for the reverse stop, operated by plunger at the center of the spherical handle. A gate is fitted to the pedestal top.

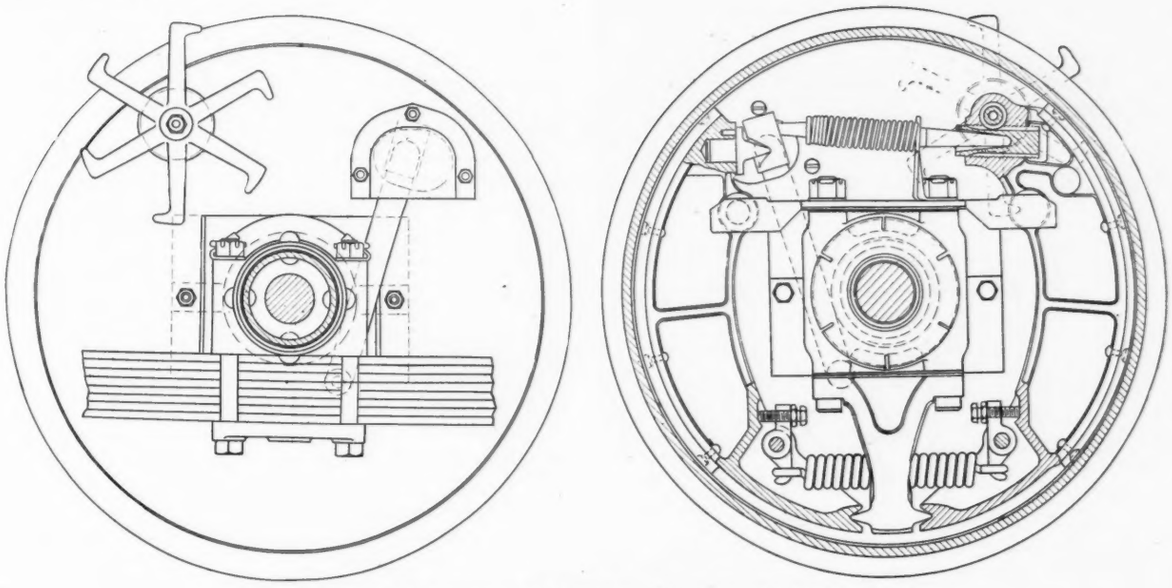
An open tubular propeller shaft, 2¼ in. in diameter, is used with Hotchkiss drive and fabric disk joints. A malleable casting of double banjo pattern forms the axle casing, with a malleable front housing for the pinion shaft bearing and a pressed steel rear cover. The spiral bevel drive has a ratio of 4.73 to 1. The combined spring pad and brake support is a press fit on each end of the axle casing.

The rear half-elliptic springs are underslung and have seven ordinary leaves and two rebound leaves. The seven leaves are formed for assembly without nip, are 2.25 in. wide, and 2.18 in. thick, while the length between eyes is 47 in., the second main leaf extending to encircle the eyes of the other. Half-elliptics are also used in front, 36 in. long and 2.25 in. wide; the six ordinary leaves are .203 in. thick and the two rebound .187. These springs are shackled at their front ends, and, like the rear ones, are of silico manganese steel.

The front axle is of H section between the spring pads and round outside them; it is a drop forging of carbon chrome steel. One-eighth inch stock is used for the frame sides, which have a maximum depth of 6 in. and a width of 2¼ in. The frame is narrow at the front but tapers and attains a width of 42 in. over the rear



Longitudinal section of forward half and transverse section of Vauxhall six-cylinder engine



Two views of the rear wheel brake with star wheel adjustment

springs. There are three tubular members behind the powerplant, a channel cross member in front and a gasoline tank guard in the rear.

Turning now to the brakes, these are exclusive to Vauxhall in design. The front ones are operated by a vertical shaft passing down through the knuckle pin and having a horizontal lever at the top. These operating shafts have a quick thread which gives vertical movement to an inner shaft that takes effect in pressing a wedge between rollers on the free (lower) ends of the brake segments. The latter have knife-edge anchor bearings at the top and carry pressed steel shoes with fabric facing; the shoes are free to pivot about a central bolt that secures each one to its brake segment, thus insuring that uniform pressure between the whole of the frictional area and the drum shall occur at all times.

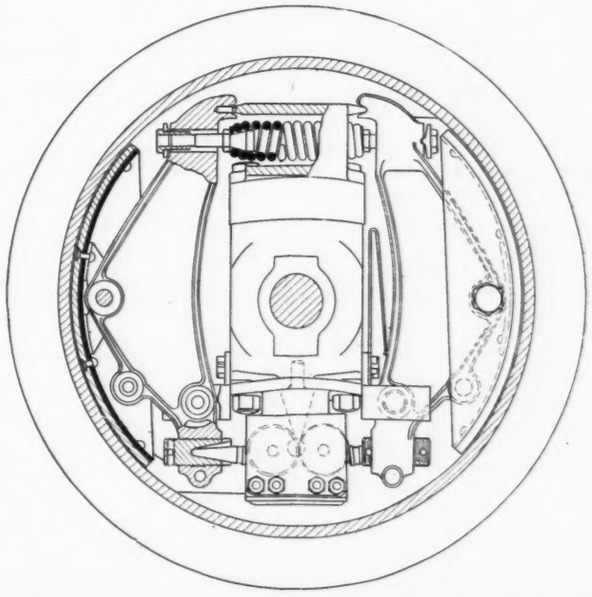
A feature of the brakes is that the clearance is constant and independent of wear of the lining. Each segment moves between a U-shaped guide plate, and at this point it has a transverse slot through which passes a stiff helical spring which bears heavily against the insides of the U plates. Assuming that the slotted hole allows ⅛ in. freedom for the spring across its major axis and that the initial movement of the brake segments is ¼ in., the spring when the brake is applied is carried ⅛ in. along the guide plate; but, when the brake is released, the friction between spring and guide plate prevents the segment from returning more than ⅛ in. toward its original position, and so sets the clearance a like amount between friction fabric and drum. The spring, in other words, forms a return stop for the segment that automatically adjusts itself as the friction fabric wears, and keeps the shoes centralized at all times.

A similar scheme applies to the rear brakes, though the expanding of the shoes in this case is by a short horizontal shaft with a "cam" consisting of the dual socket for the knife-blade stud on one shoe and a coupling bar with knife-blade ends for the other shoe. The same type of anchorage for the fulcrum ends of the segments is used, though the latter themselves carry the friction fabric, instead of pivoted shoes intervening as in the front brakes.

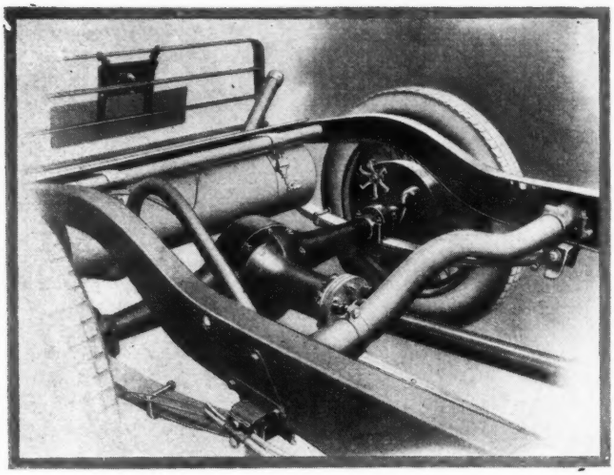
Individual brake adjustments are used. At the front they are effected by an ebonite cap above the swivel pin center, which can be turned by hand. At the rear, a six-armed star projects through the brake cover plate and serves to rotate a worm gear adjustment which varies the effective length of the thrust block for the coupling bar between the free ends of the shoes.

Complete compensation occurs in the braking equipment, viz., (a) the shoes pressures between the front and rear pairs on each side are balanced and (b) the combined resistance of the two pairs of brakes on the one side are balanced against those on the other side. To effect (b), pedal effort is transmitted by a tube to the center of the operating cross shaft, which also is tubular and which tends to compensate through twist if an unequal load is applied to its ends by unequal brake resistance.

Cable actuation (the cables in brass tubes) is adopted and as the brake effort is multiplied mainly at the brakes themselves, a very light load is imposed upon the



Vauxhall front wheel brake expanded by wedge action



Rear end of Vauxhall chassis

cables and upon the bearings of cross shafts, etc. The pedal pressure called for is very light.

Brake drums have an inside diameter of 13⅜ in. Front liners measure 10.3 by 1.25 in.; rear, 10.6 by 1.75 in. The leverage of the front brakes is made greater than that of the rear, in the proportion of 1.33 to 1, to prevent rear wheel skid.

For parking, the central hand lever is coupled to the rear brakes only. The switch of a stop light at the rear is connected to the brake pedal.

Standard wheels are of the hollow spoked, pressed steel type, wire wheels being an extra. Tires are Dunlop reinforced low pressure, 5.25 in. section on 21 in. rims. Steering is by Marles cam gear with a 14 to 1 ratio; all joints are of the ball type. The turning circle varies slightly as between one side and the other; toward the left it is 41 ft., and the right 45 ft.

The car has a maximum brake horsepower of 56, a chassis weight of 2520 lb. and a ground clearance of 9 in.

New Production Methods

As already inferred, a great change has been effected at the Vauxhall plant since its association with General Motors Corp. The floor area has been more than doubled, while the reorganization of production methods has increased the output capacity from 40 to 200 chassis per week. Except for the offices and the new body shops, the latter having three floors, all of the floor space is on the ground.

The scheme of production comprises the grouping of machine tools adjacent to sub-assemblies, the only exceptions being the separate bar shop and a group in the main shop for operations on small units. Roller conveyors are used for heavy units, such as crankcase and cylinder block, axles and gearsets; chain tracks are found in the engine-erecting bay and the chassis assembly and body mounting shops. A battery of presses has been installed in a new press shop for body panels, fenders, hoods and other light pressings, and includes both American and British machines.

A high standard of accuracy is maintained throughout and hand fitting is practically eliminated. In the crankcase and cylinder head division, the raw castings pass on a conveyor through the pickling vats and thence descend to the outside center of a gang of machines arranged as a double horseshoe; cylinder blocks pass to the left from machine to machine, to the end of that side and back to the center, and cylinder heads to the right and back, to meet the blocks at a point where engine erecting commences, with other units arriving from sub-assemblies nearby. From the end of the engine erecting conveyor, engines pass on overhead conveyors through into the test shop, where electrical brake tests are imposed, after which each engine is partially dismantled and inspected.

At one end of the test shop the chassis erecting chain track commences, in line with the exit from the frame erecting division, the frame arriving with springs in place. Axles, powerplant and other main components arrive at the erecting track from adjacent sub-assemblies and with these in place the chassis is sprayed and passes on the track through a drying oven, to have wheels mounted at the far end and be run straight through to the body-mounting shop.

G.M. experience and facilities are utilized in several directions; and special G.M. crankshaft balancer and other special machine tools are installed, for instance: Belco (Duco) cellulose finish is used for bodywork, hoods and fenders. At present, only two types of the range of bodies are produced at Luton, the phaeton and the standard coachbuilt saloon.

No Change in Management

Although American production practice has displaced the original methods (the change-over necessitated a four-months' stoppage of production), the management and staff are practically unaltered; they are certainly two or three G.M. representatives temporarily on the ground, but, speaking generally, the British character of the company and its direction remains as before. The reorganization has been completed by the original officials, after consultations in the U. S. A. and visits of inspection to G.M. plants in America.

A distinct novelty in a British plant is the inspection theatre, where prospects or gatherings of dealers can inspect individual models withdrawn from the adjoining showroom, seated in tiers of armchairs while the car is displayed on a turn-table, lit up from all directions by concealed lighting.

Equally thorough reorganization is proceeding, or has been completed in respect of administrative, sales, publicity and other departments.

It would further the interests of all concerned if every automobile factory were staffed by such an obviously "happy family" on such good terms with the financial interests behind it.

The Paris Show Story

WHAT is new this year in European design?

That will be answered at the twenty-first annual French Automobile Salon which opened at the Grand Palais, in Paris, this week, to remain in progress until Oct. 16.

The opening occurred too late for editorial treatment in this issue, but next week the high-lights of the event from an engineering standpoint will be given in a special cablegram from W. F. Bradley, European correspondent of *Automotive Industries.*

Just Among Ourselves

Mergers Not Making Much Headway

INTERESTED parties still are reported to be working on possible automotive mergers, but the outlook for immediate consummation of anything important doesn't seem to be bright. Some attempts made earlier in the year are said to have been abandoned for the time being at least. Probably a relatively successful year for a good many companies has had something to do with the failure to consummate combinations at this time. That fundamental conditions exist likely to result in further mergers, however, seems fairly certain although the date of actual mergings may be several years in the future.

* * *

Putting Our Knowledge of Management to Work

IMPROVING the management of automotive concerns often is conceived as a process of thinking up new and better ways of doing old tasks. Certainly this has something to do with it. But, day in and day out, the best way to improve management is to try to get into constant and steady operation a far greater proportion of those principles of management which almost everybody has known for a long while. Practice always must be expected to lag a good ways behind knowledge; but it needn't be so far behind as to make the connection hard to see. Something of this thought was emphasized by O. H. Cheney, vice-president, American Exchange Irving Trust Co., the other day, when he said, "We still have far to go in management. There are two reasons—one is that we do not know much about management as compared to what we will know in the future. But we do know a great deal more than we apply. In fact, if business men in general applied what is already known about management, many of our difficult economic problems would be solved." Certainly interpretation and application of existing knowledge is just as important in improving management methods today as is the discovery of new ideas—and perhaps more important.

* * *

Selling Service in the Future

LITERALLY thousands of automobile dealers in this country have been trained to have neat-looking showrooms, to see that customers coming in are properly greeted and promptly taken care of, to compile and follow up prospect lists, to take cars to people's homes for demonstration and in numerous other ways make it easier and more comfortable for people to buy new cars. And millions of new cars are sold each year. Suppose that even one manufacturer was able to get 75 per cent of his dealer organization to apply all of these same principles intensively to the operation of service stations and to the active selling of service work, wouldn't that be a grand and glorious thing for that manufacturer to be able to advertise nationally with confidence that local experiences of users would bear out his general statements? And wouldn't the dealers themselves get real profits out of their shops and make real net profits at the end of the year?

The service station of the future must be conceived not as a place to which cars come for repairs, but as a merchandising unit having repair work for sale.

* * *

Aviation Developing Along Practical Lines

THE practical and intelligent manner in which various business interests are now going after the question of commercial aviation is quite noticeable to anyone watching this development closely. Some mistakes have been and probably will be made, but on the whole the matter is being approached in an efficient and business-like way. Industrial interests are getting down to discussion of details rather than of generalities. It is worthy of note, too, that the Government agencies having to do with aviation development seem to be functioning in an intensely practical way. The three young assistant secretaries for aviation of the Commerce, Navy and War departments, respectively, seem to have been successful in keeping a thoroughly matter-of-fact, business-like point of view.

* * *

Secretaries Pursuing Business-Like Policies

UP in Boston last week, for example, we heard William P. MacCracken, Jr., Assistant Secretary of Commerce for Aviation, talk to a special aviation round-table conference sponsored by the New England Council. His whole talk centered upon a series of very specific answers to some very practical questions which are bound to arise in the attempt to develop commercial aviation in any part of the country. It was a talk which would have fitted perfectly into any conference of business men who might have been assembled to try to get definite information upon which to base action next week. E. P. Warner's talks as Assistant Secretary of the Navy for Aviation also have been characterized by that same clarity, specificness and lack of folderol which makes for rapid clarifying of a situation. While we have had less chance to contact with the work of F. Trubee Davison, Assistant Secretary of War for Aviation, all reports indicate that he is pursuing his activities in exactly the same spirit and manner. As matters stand today, the prospects for sound, consistent aviation development in this country seem unusually bright.—N. G. S.

Packard "X" Type Aircraft Engine is Largest in World

Has 24 cylinders in four banks of six each and develops 1200 hp. at 2700 r.p.m. Piston displacement 2775 cu. in. Engine weighs less than 1.2 lb. per hp.

WITH the gradual increase in power of aircraft motors since the early days of the war, it has become apparent during the past few years, that such engines would eventually be developed capable of delivering over a thousand horsepower.

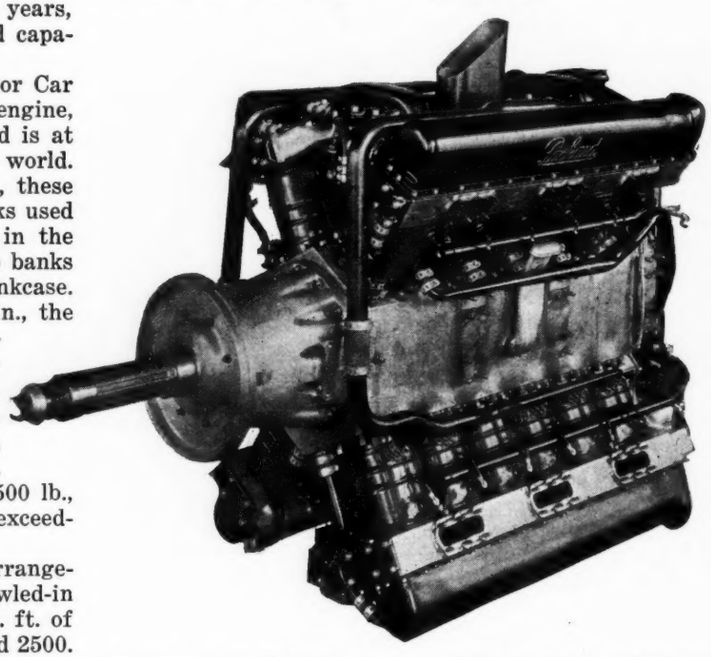
During the past two months the Packard Motor Car Co. has completed its first "X" type aircraft engine, which develops over 1200 hp. at 2700 r.p.m. and is at present the largest automotive power unit in the world. It consists of four banks of six cylinders each, these being practically identical with the cylinder banks used in the Packard 1500 engine. The four banks in the new engine are arranged in "X" form, with two banks in V above and two in V below the central crankcase.

Bore and stroke of the engine is 5⅜ by 5 in., the latter figure being nominal due to the use of articulated connecting rods. This gives a total piston displacement of 2775 cu. in., and represents a maximum power-displacement ratio of 0.45 hp. per cu. in. based on a maximum of 1250 hp. developed on dynamometer test. Since dry weight of the engine is well under 1500 lb., the engine weighs less than 1.2 lb. per hp., an exceedingly low weight.

An added advantage of this type of cylinder arrangement is the resultant low frontal area of the cowled-in engine, the new motor developing 161 hp. per sq. ft. of frontal area as compared with 126 on the Packard 2500.

This low frontal area for the power developed makes the new engine particularly adaptable to high-speed planes. In fact the first engine built is now installed in the new plane built by Messrs. Booth and Thurston of Kirkam Products, Long Island City, with which Lieut. Williams hopes to shatter the world's speed record now held by Lieut. Bonnet of France in a Bernard monoplane. By the time this appears in print the first test flights will have been completed and the plane will probably be ready for its speed trials.

While the engine represents an entirely new departure in aircraft engine design, a good many of the major units have been previously tried. These include the cylinder blocks, valves and valve gear, pistons, etc., from the Packard 1500 engine. Crankcase, crankshaft and connecting rods, however, the necessarily of new design. The most interesting feature about the crankshaft is that it does not have the usual type of main bearing journal. On this shaft the crankshaft cheeks are cylindrical, completely machined and form the main bearing journals. By this method of construction the Packard company was able to use a shaft of the same length as the 1500 engine, and increase the bearing area in proportion to the much higher power developed in the "X" engine.

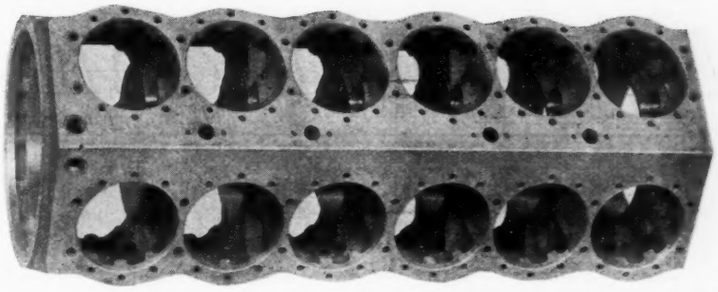


Three-quarter right front view of Packard's new "X" engine, developing 1200 hp. at 2700 r.p.m. Note studs in crankcase forming engine supports

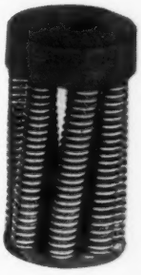
Crank-cheeks, or main bearing journals, are 7¾ in. in diameter and in assembling the crankshaft is inserted from one end. With the use of four radially disposed banks of cylinders, stresses in the crankcase are equally divided in all directions in the vertical plane, and the crankcase was therefore given a "barrel" form, the main bearing supports forming the cross-ribbing. Main bearing shells for the same reason were made in one piece. They consist of babbitt-lined steel rings shrunk into the crankcase and held in place by lock screws screwed into the countersunk holes in the steel bearing outer shell.

Crankshaft end thrust is taken by a 3 in. bearing at the rear end. A separate casting houses the propeller drive mechanism, which is of the spring type manufactured by Allison, consisting of a gear meshing in its circumference with spring clips arranged in the form of an internal gear, the entire assembly being mounted on SKF radial thrust bearings.

The connecting rods are of the articulated type with the master rod connected to the piston in the left hand upper block, other rods being of the link type, riding on bronze bushings and straddling the boss on the master rod in which the bushing is mounted. The master rod bearing is of the spun-in type, an increased bond between babbitt and rod being secured by corrugating the master rod bore before babbitting. Pin ends of all rods are also bushed similarly to other Packard aero engines.



A good idea of the strength built into the crankcase is obtained from this view which is either top or bottom, both being identical



Left—This valve spring, lately adopted on Packard 1500 engine and incorporated in the "X" engine, combines the features of multiple and helical springs. Due to this shape valves rotate slowly on their seats

Lubrication of crankshaft main bearings is through a steel manifold in the crankcase and drilled passages in the main bearing cross ribs. These bearing rings have an angular groove around the outside through which the oil passes to four holes drilled in the main bearings opposite cylinder banks. Short slots are milled in the babbitt adjacent to these holes to distribute oil over the bearing. Crankpin bearings are lubricated through the crankshaft, which has a series of holes drilled in it from end to end, the oil entering at the rear end, and the gage connection being taken off the front end.

There are three oil pumps, an oil return pump from the camshaft cases, a scavenging pump for the crankcase and the oil pressure pump. These are assembled together with the centrifugal water pump and the fuel pump in a single unit at the rear of the crankcase. At the rear are also the accessories drives to camshafts and distributors. Two short vertical shafts are driven from a gear splined to the crankshaft, these again driving two inclined shafts each to the camshafts and distributors. Gears on the accessories drive shafts are machined integrally with the shaft.

On the first engine four Scintilla distributors with 12-lobed cams were used. These are similar in appearance to the Scintilla magnetos now commonly used on modern American aircraft engines. Each distributor fires plugs in each of the four banks, two taking care of plugs on the exhaust and two of plugs on the inlet side of the combustion chamber, dual ignition as usual being used.

Four Carburetors

Four carburetors are also used, these being of Stromberg manufacture, and mounted between upper and lower engine Vs. An interesting feature of the carburetor control is that it is combined with the spark advance control in a single lever in the pilot's cockpit, all four carburetors and distributors being operated by this control. A system of simple toggle levers accomplishes this result, the first movement of the pilot's control serving to advance the spark only, after which both the carburetor and spark controls are opened and advanced respectively unutil in about mid-position the spark is fully advanced and further movement of the control is confined to opening the throttles only. With this arrangement the pilot's duties are considerably simplified and the lowest possible idling speed is automatically obtained.

As mentioned, the cylinder blocks are taken from the Packard 1500 engine, the main change lying in an alteration of the water outlet connections, which are in the center of the upper blocks.

With the rigid construction of the crankcase on the Packard X engine, it has been possible to eliminate engine bearers, the crankcase itself taking the place of the bearers. Three sets of six studs each are provided on the crankcase side for engine supports. Bolted to these studs in the plane assembly, are brackets to which are attached steel tubes leading to the landing gear and lower and upper fuselage longerons. The latter are the only tension members in the engine support.

Farm Tractors in Russia

USE of farm tractors in Soviet Russia is increasing rapidly, which is partly explained by the fact that the country's stock of farm horses was greatly reduced (by about 8,000,000 according to estimates) by the war and the revolution. In 1922 there were as yet only 600 tractors in the country, 1923 the number had increased to 1200, 1924 to 2700, 1925 to 5400 and during the fall of last year there were already approximately 20,000 in service.

Theoretically these machines should be capable of plowing from 7,500,000 to 10,000,000 acres per year, but observations have shown that the work actually done is only about half this. The reason for this deficiency in the amount of work accomplished is said to be difficulty in getting spare parts and lack of a sufficient number of competent operators.

At first the Russian mujic was not very favorably inclined toward the tractor, but the improved crops which resulted from deeper cultivation have convinced him of its value, and it is now estimated that Russia will need 200,000 tractors within a few years.

IT is reported that the Italian O.M. firm (Officine Meccaniche) in Brescia has made arrangements to take up the manufacture of trucks under license from Adolph Saurer of Arbon Switzerland. The O. M. works will therefore be the second motor truck factory in Italy, this branch of the motor vehicle industry having been represented thus far solely by Fiat.

New Developments— Automotive

Bench Gear Hobbing Machine

THE Triplex Machine Tool Co., 50 Church St., New York, has introduced on the American market the Mikron No. 79 bench-type gear and pinion hobbing machine, which is shown in the photograph herewith. The machine is useful for hobbing gear wheels and

Mikron bench gear hobber for small gears and pinions

pinions up to 1½ in. diameter and 1½ in. length. It is used for the hobbing of brass and steel gears for speedometer drives, etc.

Gear wheels with from 6 to 500 teeth, can be cut on the machine by using suitable change gears. All the gears are completely enclosed and the change wheels are made accessible by removing cover plates. During the cutting operation the work is held firmly on an arbor and slip of the blanks is entirely prevented. In practice, a spare arbor is provided, which can be filled up with blanks while the other is in the machine.

The feed of the hob can be varied according to the material to be cut, the change gears delivered with the machine allowed a variation of from 0.004 to 0.030 in. feed per revolution of the work.

The hobs used with the machine are of the backed-off type, so they may be easily resharpened. The machine is provided with an aluminum oil reservoir for the cutter lubricant, and this has a filtering compartment to protect the oil pump from foreign matter.

Sundstrand Production Lathe

IN establishing the basis for the design of the new production lathe of the Sundstrand Machine Tool Co., Rockford, Ill., which was referred to briefly in *Automotive Industries* of Oct. 1, an unusual procedure was followed.

To determine the exact requirements made of a modern production lathe, a representative assortment of parts, ranging from 4 to 10 in. in diameter, was selected and carefully analyzed. Several sizes of the following parts were included in this assortment: Ball bearing races, bearing retainers, tractor bevel transmission and differential gears, cluster gears, differential drive gears (shaft end), differential drive gears (gear end), flange universal joints, hubs, steering knuckles, steering worm gears, taper roller bearings, transmission sliding gears, pistons for tractor and automobile engines, miscellaneous parts. It will be observed, by the way, that, with the possible exception of the last item, all are automotive parts, which indicates very clearly how large the automotive market looms in the machine tool builder's field of vision.

Charts were made showing the requirements of each part, the maximum and minimum speed of the spindle, the maximum and minimum feed of front and rear tool, the maximum and minimum approach for both rear and front tool, requirements for a third tool, also the necessary clearance for the loading and unloading. Months were required for the preparation of these charts, but in the end a clear picture was obtained of the range required for each part and it was then comparatively simple to reduce these by groups in relation to their requirements.

Belt or Motor Drive

The Sundstrand automatic lathe may be driven direct from a line shaft or by a motor, and when motor-drive is used, the motor is placed in the base and completely inclosed, its power being transmitted to the clutch by a silent chain. On the main drive pulley is mounted a Twin Disk clutch of 30 hp. rating. This type of clutch was selected as a result of five years' experience with it on other production machines. Pick-off gears are used to transmit the power from the clutch to the main driveshaft. The final drive to the spindle is by means of an automotive type worm gear. The worm is made of alloy steel, hardened, ground and polished, and the wheel is a gear bronze, chilled casting. The worm wheel, of course, is mounted directly on the main spindle. It is noteworthy that in addition to the worm and worm wheel only two gears are used to obtain the drive to the spindle.

The spindle is made of 60-point carbon steel, heat treated; it is unusually large and runs in adjustable taper bronze bearings at both front and rear, with a large ball thrust bearing between the flange on the spindle nose and the headstock. A close adjustment is provided to insure that the thrust will be taken by the thrust bearing at all times. The spindle construction will permit the use of any type of air-operated chucking device, and with the adjustment provided for the bronze taper bearing, permits the use of an air-operated device on the tailstock without exceeding the thrust capacity of the thrust bearing.

The feed box has one clutch for the feed, driven directly from the main spindle, and two clutches for the rapid approach and reverse. One gear, mounted directly on the main spindle, meshes with the gear on the pick-off gear shaft. Thence the power is transmitted by pick-off gears directly to the one-way positive clutch on the center shaft. The rapid approach clutch and the reverse clutch are driven directly from a sprocket on the main drive pulley and run at a constant speed, giving the rapid approach and reverse of the front and rear carriages, a travel of approximately 70 in. per

Parts, Accessories and Production Tools

minute. The clutches mentioned above are of the multiple disk type, run constantly in oil and are provided with facilities for adjustment. The power is transmitted from the rapid approach clutch and the reverse clutch direct to the center shaft by means of bevel gears, and the control of all three clutches is such that under no condition can two clutches be engaged simultaneously.

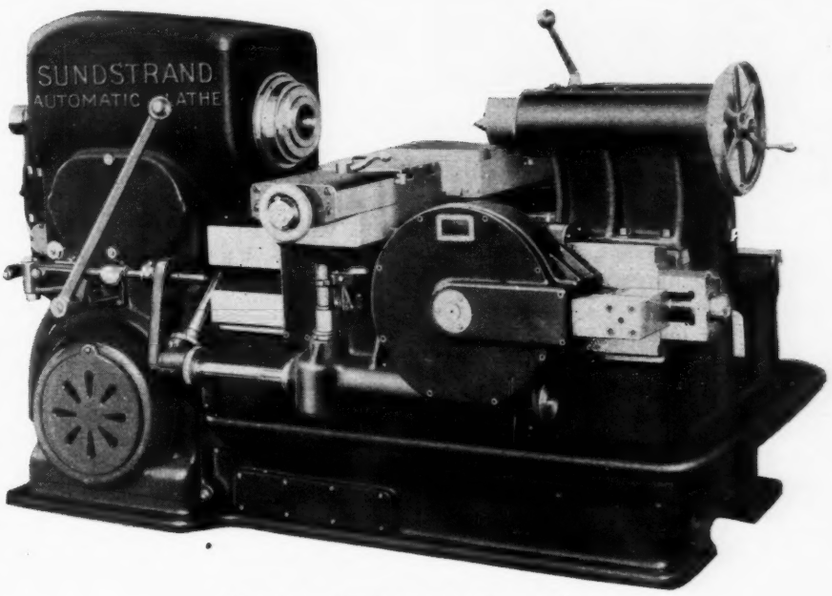
The front carriage is 28 in. long and has a large bearing area. An unusual arrangement is provided for feeding the carriage longitudinally. A 14 in. worm wheel having one cam on each side is used. Each of the cams is engaged in a roller, the roller being mounted on anti-friction bearings on a roller slide which is secured in the headstock.

First one side of the worm wheel engages with its cam slide in the roller and feeds the carriage 3½ in. When the worm wheel has traveled half a revolution, this cam disengages and the cam slide on the other side of the worm wheel engages in the other roller, feeding another 3½ in. This arrangement permits a longitudinal feed of 7 in. If less than 3½ in. feed is required for the work one of the rollers is disengaged.

Power is transmitted to the carriage by a worm and wheel, the worm being mounted in the carriage and driven through a rear shaft, which is driven directly from the center shaft. This unusual arrangement permits the tool to feed to a shoulder and keep within limits of 0.0005 and 0.001 in.; also, by virtue of the design of the feed box and of the cam, it allows of a longitudinal movement up to 7 in. It also allows the carriage to be stationary for one-quarter revolution either at a starting point or a stopping point. The importance of this feature resides in the fact that it allows the cross slide to be fed in the required depth, or to take a facing cut if necessary, before the longitudinal feed starts. It also allows the reversal of the cross slide and the carriage simultaneously, giving a triangular movement of the cutting tool. For longitudinal adjustment of the carriage, a screw adjustment is provided to the roller slide.

The front cross slide, which has a power cross feed of 2 in., obtains its power directly from a pair of bevel gears, one being mounted in line with the carriage feed worm, the other connected with the carriage shaft. In one end of the clutch, a screw pinion integral with the shaft, transmits the power to a circular cam which supplies the clutch motion for the front cross slide. This construction makes possible any movement up to 2 in., and allows the cross slide to be fed in the required depth while the carriage is either stationary or in longitudinal motion. The cam construction is said to be such that the cross slide will stop positively at a set point each time.

The rear carriage, on which is mounted the rear cross slide, is adjustable on the bed and may be placed in any position to suit the work. This carriage has rectangular ways for the cross slide, and the gibs are located beneath the ways of the slide. The purpose of this construction is to eliminate the spring to which the rear slide is subjected when the strain on the cross slide is upward. Provision is made for obtaining a longitudinal power feed on the carriage itself, but inasmuch as occasions for using power feed on the rear carriage are rare, this is not incorporated on the standard machine. The power feed construction to the cross slide is by means of worm gearing and a cam. Incorporation of the variable stroke bracket allows a feed on the rear cross slide of either one-quarter the feed of the front carriage or four times any feed between those limits. For shorter travel on the rear slide, up to ¼ in., it is possible to obtain for the rear slide 1/20 of the travel of the front carriage.



New Sundstrand production lathe

The tailstock has a 4½ in. spindle of 60-point carbon steel, heat treated. An anti-friction center is used. The rigid construction of the tailstock permits of the use of an air-operated movement. For manual operation a 12-in. hand wheel is provided, which operates a 2-in. screw giving a movement of the tailstock spindle of 1 in. to each revolution of the hand wheel. An eccentric type of locking device is provided, and is said to be absolutely positive in action.

AT the recent Royal Agricultural Show at Newport England, the firm of John Fowler & Co. of Leeds, exhibited a cable plowing outfit equipped with a six-cylinder MAN. Diesel engine. The outfit is intended chiefly for export to countries where the more volatile fuels are high priced and hard to obtain. The firm has been making cable plowing sets driven by gasoline engines for some years.

Alfred P. Sloan, Jr.

"GETTING the FACTS" is Keystone of General Motors' Success

By Alfred P. Sloan, Jr.*

President General Motors Corporation

THERE is a very fundamental principle, the importance of which I am continually trying to impress upon our direct organization as well as our dealers; viz.: Get the Facts.

I would like to tell you some of the things we do in General Motors to get the facts:—

First, let me tell you about what we call our field trips. It may surprise you to know that I personally have visited, with many of my associates, practically every city in the United States from the Atlantic to the Pacific and from the Gulf of Mexico to the Canadian border. In these trips I visit from five to ten dealers per day. I meet them in their own places of business, talk with them across their own desks and solicit from them suggestions and criticisms as to their relations with the corporation; the character of the product; the corporation's policies; the trend of the consumer demand; their viewpoint as to the future, and many other things that such a contact makes possible. I solicit criticism of anything and everything.

I make careful notes of all the points that come up that are worth while and when I get back home I study and develop these points and capitalize them so far as possible. The reason for all this is, that irrespective of how efficient our contact through our regular organizations may be, our men in the field are charged with doing specific things and that takes all their time and effort. I go out from the standpoint of general policies and get the facts in a very personal way without the intermediary of an organization which is apt to overlook the most important points and inject their own personal viewpoint on such points as they do get. I believe that this work that we have done has contributed much more than any of us appreciate, to the progress that General Motors has made.

Our research laboratories are no different from our field trips in principle. We are searching for the facts that we may know more about the fundamentals and be able to add value to the performance and effectiveness of our products, just the same as in the field work we are trying to learn more about the distribution of our products. We send representatives abroad to study foreign methods and foreign cars. We have an engineering office in London with representatives in the other countries to keep us advised at all times as to what progress there may be along European lines that General Motors can capitalize. Again, we are seeking the facts.

The Proving Ground is also dedicated to the principle of getting the facts. As you see, we not only operate our own cars, but all competitive cars, both those made at home and abroad. We are seeking the facts about all these cars to the end that General Motors cars are better cars. We are seeking in our sales activity here at the proving ground to impress upon our dealers the facts about our cars so that they may more intelligently present the facts to the consumer.

I want to outline to you what I believe to be a great weakness in the automotive industry today and what General Motors is trying to do to correct that weakness.

I have stated frankly to General Motors dealers, in almost every city in the United States, that I was deeply concerned with the fact that many of them, even those that were carrying on in a reasonably efficient manner, were not making the return on their capital that they should. Right here let me say that so far as General Motors dealers are concerned, from what facts I have—I realize there has been much improvement during the past two or three years, but interested as the management of General Motors must be in every step, from the raw material to the ultimate consumer, and recognizing that this chain of circumstances is no stronger than its weakest link—I feel a great deal of uncertainty as to the operating position of our dealer organization as a whole. I hope that this feeling of uncertainty is unwarranted. I am sure that with a responsibility so great, all elements of uncertainty must be eliminated and that our dealers should know the facts about their operating position as clearly and as scientifically as we feel that we know the facts about General Motors operating position.

This brings us to *proper accounting*. Many of our dealers, and the same thing applies to dealers of other organizations, have good accounting systems. Many of them have indifferent ones and I regret to say that too large a percentage of them have practically no accounting system at all. Many of those who have accounting systems, through lack of their being properly developed, are not able to effectively use them. In other

* Portion of an address delivered by Mr. Sloan to the automobile editors of American newspapers and magazines at the General Motors Proving Grounds, Milford, Mich., Sept. 28, 1927.

words, they are not so developed that they give the dealer the facts about his business; where the leaks are; what he should do to improve his position. As I said before, uncertainty must be eliminated. Uncertainty and efficiency are as far apart as the North Pole is from the South. If I could wave a magic wand over our dealer organization, with the result that every dealer could have a proper accounting system, could know the facts about his business and could intelligently deal with the many details incident to his business in an intelligent manner as a result thereof, I would be willing to pay for that accomplishment an enormous sum and I would be fully justified in doing so. It would be the best investment General Motors ever made.

We consider our dealers partners in our business. It is true they operate on their own account, but they are, nevertheless, partners in the sense that their prosperity is linked up with our prosperity and all good partners should recognize the necessities of each other and should cooperate so that all weaknesses can be eliminated. This is exactly what General Motors is doing in this connection.

We have organized a subsidiary whose sole functions will be to establish proper accounting systems wherever desired by our dealers. We will audit such accounts periodically in order that our dealers may have the assurance that their records are properly established and that the facts that come to them are facts rather than fiction. We feel that with the great amount of specific knowledge we have, involving all phases of the automotive business, and with an organization that specializes in this particular branch of accounting, with nothing else to think of, that we can, through evolution and with the cooperation of our dealers, place before them facts and figures that will indicate to them very clearly what they should do and what they should not do.

I do not think there is anything that will contribute more to our complete stabilization than an accomplishment of this kind. I do not think there is anything that will establish greater confidence in the minds of the banking interests whose cooperation we must have in carrying on. Some time ago I saw it stated, and I believe it is absolutely correct, that if business, using that term in its broadest sense, was equipped with proper accounting, a very large percentage of the failures and losses incident to same, could be eliminated. We hope to be able, in due course of time, to place before our dealers "bogeys" I might say, showing the proper relationship of each expense item to the business as a whole with the result that if a dealer will conduct his affairs along the lines that we can ultimately outline to him, he will, in a sense, take the straight and direct course to a reasonable and fair profit.

I have told my associates time and time again, that with this program of ours accomplished to the degree that I am hopeful that it can be accomplished, that it will be the greatest achievement of General Motors.

A few words about our organization itself. We operate on the principle of what I might term a "decentralized organization," I mean by that, each one of our operations is self-contained, is headed up by an executive who has full authority and is responsible for his individual operation. We, naturally, think that this is the best scheme of organization or we would not adopt it. Our responsibilities are so great, the necessity of quick action and prompt decision is so great and contributes so much increased efficiency and effectiveness that it is about the only way a business of magnitude of General Motors could be conducted. It also, I think, has the very great advantage of developing executive ability and initiative on the part of a greater number of individuals.

Each member of our organization appreciates what is absolutely true—that he has a real function to perform and that upon their initiative, their industry and the constructiveness of their decisions as a whole, depends the success of the institution as a whole. Coordination is effected through what we call Inter-Divisional Relations Committees where those interested in the same functions of the important divisions meet together and discuss their own problems as well as the same problems from the standpoint of corporation policy. For instance, our Purchasing Agents meet together in the form of a General Purchasing Committee, presided over by a Vice President of the Corporation. If it is found that one or more of the Divisions can profit by purchasing as one unit, then we purchase as General Motors and all profit. If it is found that there is nothing gained, we do not do so. In that event the purchase is by the individual operations as their judgment may determine. In that way we get individual initiative and at the same time we do not overlook anything from the Corporation standpoint.

In addition to this, the Corporation maintains an organization in Detroit as an advisory service for the benefit of all. The Research activity acts in a consulting capacity for the Engineering Departments of all the divisions, and in addition to this, is constantly searching for new principles and ideas of a more fundamental and scientific character than would be possible for any of the individual Engineering Departments, which must be more concerned with immediate production problems.

Legal and patent problems, as well as accounting and financial control, are handled in a similar manner.

Speaking of General Motors' position in the industry, I am reminded of the fact that many of our newspapers and magazines seem to be devoting more or less space to a discussion of the relative position of General Motors and Ford as important factors in the automotive industry, their present relation and their future relation.

Now, I have tried to consider the question from all sides, and it seems to me it is not such a complicated problem as it is made out to be. If the past is any indication of the future, the new Ford car will be a car that will appeal to a great mass of people. Naturally, that car must meet present conditions, but the basic idea is likely to be the same. General Motors is in quite a different position. General Motors' idea is to make a car of greater luxury than the Ford—a car that properly belongs to the next higher price class. With every price car there is a definite market.

This applies to the Cadillac as well as it does the Ford. Any manufacturer that will give to the public a definite number of dollars' worth of value and do it constructively and honestly, will get a certain proportion of the market that belongs to that number of dollars. It is purely a question of giving the public honest value.

There is plenty of opportunity in the world today for Mr. Ford to give the public honest value, which of course he will do, with the result that he will sell an enormous number of cars per year, and there is an equal opportunity for General Motors to give the public honest value at a higher price and, likewise, sell a very large number of cars per year. To make a long story short, it seems to me that both Ford and General Motors are governed by the same economic principle, viz., to give the greatest possible value in their respective price classes. There is absolutely no reason why General Motors cannot today give a greater per dollar value than anyone in the world. That is why I say, upon analysis, the problem does not look so complicated.

Safety Council *Centers* Attention *on* Automobile Accidents

Grade crossing as factor in motor vehicle mishaps is debated. Apathy of public blamed for slow progress in cutting down death rate. Road builders start drive.

By M. Warren Baker

BECAUSE of the fact that all forms of accidental death, excepting those accredited to motor vehicles, decreased in the United States last year, the automobile assumed major proportions in the discussions at the sixteenth annual congress of the National Safety Council at Chicago last week.

The council spent five days in session and heard more than 300 addresses expounding the causes of accidents and their prevention. A big exhibit of safety appliances and services was held in connection with the congress.

Charles E. Hill, general safety agent of the New York Central Lines, directed attention toward automobiles by pointing out that deaths from this cause on the streets and highways had increased from 6000 to 23,000, or 283 per cent, in the last 10 years. He made no special point, however, of the fact that the volume of automobiles has increased by 340 per cent in the same period. Deaths at railroad crossings have averaged 2000 and injuries 5570 each year in the last 10.

Many accidents classified ordinarily as due to automobiles, properly do not constitute a black mark either against the automobile or the owner, a number of speakers agreed.

At the time the council was organized the greatest menace to life in the country was conceded to be the railroad. In the 15 years that followed the annual toll has been cut one-third. Of the two-thirds remaining, it seemed to be the consensus of the congress that a large volume is chargeable to the combination of the automobile and the unprotected grade-crossing.

Importance of Engineering

Charles M. Hayes, of the Chicago Motor Club, stated that the matter of highway engineering is probably of the greatest importance toward reducing accidental deaths.

"In Cook County," he said, "widening of highways and separation of grades are two engineering measures now being dealt with. We are building safety into our highways and the results can plainly be foretold."

Mr. Hill, on the other hand, declared that the separation of all grades in the country is unthinkable. He explained that the cost would be enormous and declared that this method is the solution only where the traffic is heavy.

Other speakers blamed the apathy of the public for the greater part of the automobile toll. It was said that lack of statistical information, the temperament of the American public, and the huge increase in the use of automobiles as compared with the ability of the country to provide efficient road capacity were reasons why greater progress has not been recorded in connection with the so-called "motor menace."

Charles A. Harnett, commissioner of motor vehicles for New York State, pointed to the greatly increased efficiency in the control of disease and the cure of human ills and blamed the apparent indifference of the nation for the yearly toll accredited to the use of the automobile.

"If we were confronted by an epidemic causing 70 deaths a day for even the brief period of a week, every resource of the nation and every governmental agency immediately would be coordinated to wipe out the condition that produced it," he said.

"Today there is agitation for a control of aviation, yet automobiles are killing more people daily than were killed by airplanes all summer."

Col. A. H. Barber, director of the safety committee organized by Secretary Hoover to design a uniform code of motor vehicle laws for the country, reported that northeastern states were willing to support the plan but that Middle, Western and Southern States treated the proposals coldly.

Senator L. A. Drexler, president of the Delaware Safety Council, declared that in the final analysis grade crossing elimination is the only true solution of the automobile problem. Senator Drexler charged that the railways of the country were purposely holding back progress in this direction and urged the national council to beat down this resistance.

Mr. Hill hotly challenged the Senator's statements. "The part played by the railways," Mr. Hill said, "may be seen in the fact that last year 22 per cent of all fatal crossing accidents resulted when drivers ran into the sides of trains in broad daylight. Forty-three per cent of all accidents at grade crossings were caused when motorists drove through lowered gates. In the last year seven crossing watchmen have been killed by motorists as they endeavored to warn traffic against approaching trains.

Charles M. Upham, director of the American Road Builders' Association, pointed to the fact that 3,500,000 persons have been seriously injured in highway accidents in the last 10 years. He said his association is launching a nation-wide campaign for motor safety.

It seemed the consensus, following the debate between Senator Drexler and Mr. Hill, that elimination of grade crossings should be carried out so far as is practicable and that then a campaign of education should complete this phase of the safety problem.

Intelligent, organized effort will reduce motor fatality, said the report of the statistics committee, of which Dr. Louis I. Dublin, statistician, Metropolitan Life In-

surance Co. is chairman. The report covered the entire accident situation from a statistical viewpoint and dealt with accidents on the streets and highways, in other public places, at home, throughout industry, on the sea and in the air.

Commenting on the hazard of aviation, the report pointed out that such factors as unlicensed pilots, uninspected planes and unscrupulous owners, none of which is present in the mail or army service, must be eliminated before aviation in general will achieve a reputation for safety which will make the airplane an important factor in traveling.

Dr. Dublin said that from the time a child is born until he reaches the age of 19 the danger of accidental death is a great menace and that between the ages of five and 14 years the child is more likely to die as the result of an accident than because of any disease.

While railroad accidents, drowning and firearms take a heavy toil in rural sections, automobiles, street cars, suffocation and asphyxiation cause the greater number of deaths in urban districts. The report estimated that accidents in industrial establishments yearly caused the deaths of between 18,000 and 25,000 persons and the total of non-fatal injuries in the industry reaches about 3,000,000 a year.

Estimates of the total yearly number of fatalities from home accidents range from 20,000 to 25,000 and higher. It is believed there are as many deaths from accidents in the home as from accidents in industry.

The report shows that in 112,700 motor vehicle accidents last year, 106,950 cars were driven by men and 5840 by women, or a ratio of about 20 to 1. Of the number of pedestrians injured in traffic accidents about 9000 were boys and men and about 5000 were girls and women. About 60 per cent of the accidents occurred in daylight, about 18 per cent in artifical light and about 22 per cent in dusk or darkness. The report also indicated that 54 per cent of all personal injury accidents occurred at intersections. Only 35 per cent of motor vehicle fatalities occurred at intersections.

Falling Down on the Job

Cities are blamed for falling down on their traffic jobs by Harold S. Buttenheim, editor of *The American City*. Mr. Buttenheim believes that the cities have provided more for relief after the event than for preventive measures before the event. If the tenement child that attempts to cross Seventh Avenue is run down and badly injured she probably has good hospital care; if she recovers and her parents are poor enough, her doctor's bills are met from public or charitable funds. But in the preventive work thus far done by the cities, palliatives have been given more attention than the removal of causes, Mr. Buttenheim declared.

Foolish haste, lack of courtesy, mental attitudes of most motorists and of some law makers were blamed by the editor for traffic accidents. He suggests that in addition to attacking haste and discourtesy of drivers and pedestrians, each city should undertake a well-organized campaign of traffic education that would combat ignorance, lawlessness and selfishness.

Cleanliness Prevents Fires

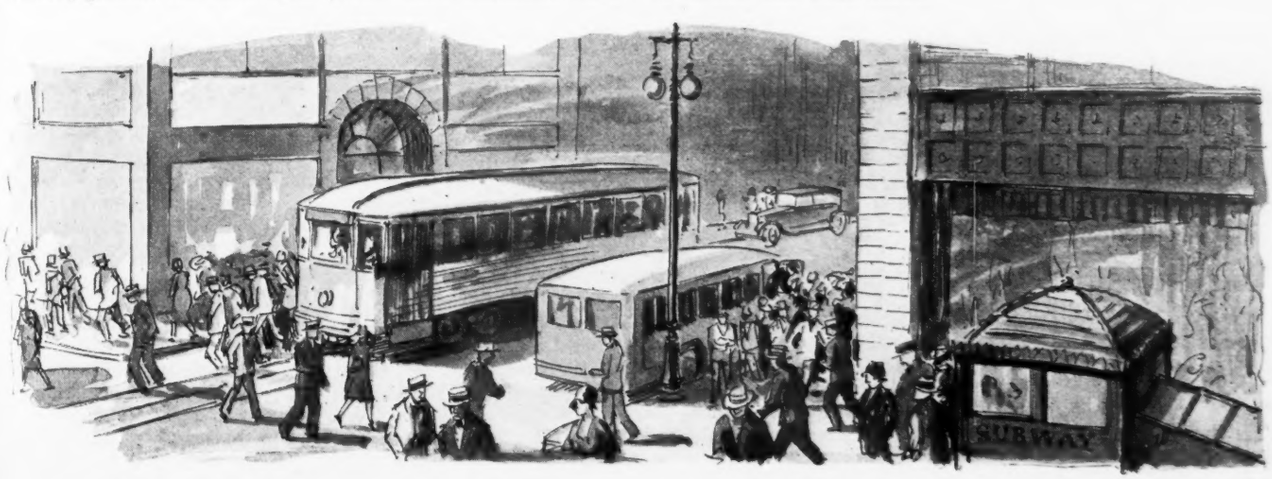
Cleanliness as a habit within the manufacturing plant was given as one of the most important factors in the prevention of fires by Eugene Arms, manager of the Mutual Fire Prevention Bureau of Chicago. He held that cleanliness was important, first, because it keeps the fire from spreading by feeding on combustible material in its path; second, because in many cases it would prevent the starting of a fire because all spontaneous combustion is caused by the slow oxidation of waste material. Fires from this cause are particularly destructive because they occur in out-of-the-way places where piles of dirt or oily rags accumulate.

Explosions and fires as a result of explosions almost always are caused through the lack of housekeeping. When a grain elevator blew up in Chicago, killing all the workmen inside and near the plant, it was caused by great quantities of dust in the air. According to Mr. Arms, nine out of 10 of these catastrophies are the result of bad housekeeping.

Methods of prevention of accidents in chemical laboratories were discussed by Dr. J. W. Stillman of E. I. du Pont de Nemours & Co. As in the case of Mr. Arms' address on fire prevention, Dr. Stillman stressed tidiness within the laboratory. He declared that neatness not only promotes greater efficiency by the worker but should be classified as an absolute requisite of safety in the chemical laboratory. When chemicals are spilled they should immediately be cleaned up. Stray particles will result in mixtures that may of themselves start a fire. Dr. Stillman gave rules for the handling of gases, mercury, sodium, phosphorus and other products apt to cause trouble. Technical details of laboratory construction and equipment also were discussed at considerable length.

How the American Railway Express Co. has acted in recent years to prevent accidents involving its equipment was told by M. T. Hanrahan, superintendent of vehicle service.

Dr. Lucian W. Chaney of the United States Bureau of Labor Statistics reported on the record of progress in the iron and steel industries. Accident frequency rates in 1925 and 1926 show that in the last year a big reduction has been made.



AUTOMOTIVE NEWS SECTION INDUSTRIES

Philadelphia, Pennsylvania

Saturday, October 8, 1927

September Business Lower; Ford Sale Reported Large

PHILADELPHIA, Oct. 8—Slowing down in retail sales in September will have the effect of decreasing factory operations generally in October. To some extent this is a normal seasonal development but unquestionably it has been accentuated by the Ford delay. Practically all sections of the country report buyers awaiting the new Ford—many, because of a belief that it will compel price revisions in other lines.

Under the influence of buying hesitancy, dealer stocks of new cars have shown a rising tendency, while used car stocks have remained at approximately previous levels because of lowered new car buying and consequent absence of trade-ins. In the Southeast and Northwest and in some Middle Western districts sales conditions have been good in September and promise well in October.

The absence of new Fords has helped the used car situation in the past month, but the appearance of the new model, in addition to its effect on the new car sales of low priced makes, will bring it into sharp competition with used cars of all makes. Many of the buyers now waiting it, under normal

(Continued on page 560)

Chevrolet to Build Factory at Atlanta

DETROIT, Oct. 4—Chevrolet Motor Co. will build an assembly plant at Atlanta costing $2,250,000 it was made known today. The unit will have a capacity of 350 cars a day and will employ 1200 persons. The new factory will serve Georgia, Florida and parts of Alabama and South Carolina. Its erection will speed deliveries in this territory and will relieve the Norwood, Ohio, assembly plant, which has been operated night and day to meet demand from southern territories.

The main plant at Atlanta will be one story of brick with monitor steel roof and will cover an area of 800 x 320 ft. There will also be a building 160 x 680 ft., for use of the Fisher Body Corp., and a parts building 120 x 204 ft. A two-story office building 40 x 204 ft. will complete the group.

Chevrolet Output 865,000

DETROIT, Oct. 6—Production of Chevrolet cars in the first nine months of 1927 totalled 865,000 as against 594,665 in the same period last year.

Ruggles Receiver Named

DETROIT, Oct. 5—Ruggles Truck Co., of Saginaw, has been placed in the hands of a receiver through friendly action brought in the Saginaw County Circuit Court.

September Output 273,309 by N.A.C.C.

NEW YORK, Oct. 5—Car and truck production by members of the National Automobile Chamber of Commerce totaled 273,309 units in September, according to preliminary figures made available today. This was about equal to the production of chamber members in September, 1926, when a mark of 273,295 was recorded, but it was 13½ per cent under the August, 1927, production of 316,058.

As in August the chamber production virtually was identical with that of the industry as a whole. In September, 1926, with Ford's production included, the total was 410,852.

For the first nine months of 1927, N.A.C.C. members produced 2,605,804 cars and trucks, an increase of 228,351 units, or 6 per cent, over the corresponding period of 1926.

Goodyear Gives Dealers New Profit Arrangement

AKRON, Oct. 6—Effective Oct. 1, changes in sales policy were announced by Goodyear Tire & Rubber Co. to enable dealers to make a better profit on tires sold to corporations and commercial accounts. Larger discounts now are allowed on this class of business, it was stated. Reports of the new discount policy led to circulation of rumors that a general tire price cut was impending, but this was denied. Other leading tire manufacturers added that they were putting into effect discount policies somewhat similar to the Goodyear plan.

Hudson Has Record Quarter

DETROIT, Oct. 4—Hudson Motor Car Co. built 87,000 cars during July-August-September, the largest third quarter in the company's history and 25,000 more than were built in the corresponding period of 1926. The only other quarter which exceeds the one just closed was during the peak season last spring. The total output for the first nine months was 255,000 cars compared with 227,500 for all of 1926.

221 Draw Spaces for A.E.A. Exhiibt

CHICAGO, Oct. 1—Drawings for space at the Automotive Equipment Association show in the Coliseum, Nov. 7 to 12, were held this week at the Stevens Hotel.

Spaces were reserved by 221 exhibitors and others undoubtedly will take spaces before the opening of the show.

44 Makes of Cars Draw 1928 Spaces

NEW YORK, Oct. 6—Drawings for space in the national shows by National Automobile Chamber of Commerce members this week witnessed the right to first selection change for the first time in 10 years. Preferential positions of a number of companies were changed by the shifts of business volume during the year and four companies who exhibited at the 1927 shows did not draw for the 1928 events.

Spaces drawn this week were for 44 makes of cars, 19 makes of trucks and one taxicab; 32 manufacturing companies being represented in the drawing as against 35 last year. Companies failing to draw were Rickenbacker, Wills Ste. Claire, Duesenberg and Davis. The Duesenberg company was merged with Auburn during he year, Rickenbacker and Wills Ste. Claire are out of production. Davis is specializing its marketing activity.

Cars making their first appearance at national shows will be Wolverine, Falcon and La Salle though all three have been on the market for some time. Stutz Motor Car Co. of America, Inc., will exhibit a package car in addition to its passenger car line.

Willys Lowers Two Models

TOLEDO, Oct. 5—Reduction in price of $255 on both seven-passenger closed cars on the 135-in. Willys-Knight chassis was made this week by Willys-Overland, Inc. The seven-passenger sedan and limousine formerly listing at $2,850 and $2,950 respectively, are now priced at $2,595 and $2,695.

Auburn Outsells 1926

AUBURN, IND., Oct. 5—Sales of Auburn cars in the first eight months of 1927 total 11,085, or 2583 more than were sold during the entire year of 1926, according to E. L. Cord, president of Auburn Automobile Co.

Large Capacity Buses Feature AERA Show

Association Opens Rolls to Independent Operators—Three New Engines Shown

CLEVELAND, Oct. 5—New bus chassis of unconventional design and providing a combined seating and standing capacity of about 75 passengers, feature the American Electric Railway Association show being held here this week. All-duralumin bodies shown by Murray and Versare, as well as the new six-cylinder models of Graham Brothers, Reo and Studebaker, are exciting considerable interest.

Independent bus operators are now eligible to membership in the association as constitutional revisions adopted at the convention make the association one of urban and interurban transportation companies and of companies supplying their needs, without any limitation on the type of transportation equipment employed to render service.

New six-cylinder engines for the bus and truck field are being shown by Continental, Hercules and Waukesha. The latter two are of the L-head type, while the new Continental is a pushrod operated, overhead valve design.

The unconventional bus designs are being exhibited by A. C. F., Twin-Coach and Versare. These models all bear considerable resemblance to the street car in appearance and the operator sits at the very front of the vehicle. In each case, the body is designed to take care of the functions performed by the chassis frame and consequently they are frameless in the conventional sense.

A. C. F. uses a single six-cylinder engine mounted amidships on the right side and drives through a gear transmission. The Twin-Coach construction has been described previously in these columns. Versare, which incidentally is a six-wheel job, uses the gas-electric drive with engine and generator mounted transversely at the rear of the body.

A.A.A. Discusses Plans

CLEVELAND, Oct. 5—The board of directors of the American Automobile Association met this week. Discussion centered around the question of interstate regulation as the bus division now is planning its legislative campaign for the next session of Congress. The importance of securing more individual members among bus operators was emphasized.

Bauer Joins Delegates At Transport Congress

NEW YORK, Oct. 5—George F. Bauer, manager of the foreign department of the National Automobile Chamber of Commerce, sailed last week to join other delegates of the chamber at the Fourth World Motor Transport Congress, to be held in London, Nov. 14 to 16, and to visit the Paris and London automobile shows. Mr. Bauer will also embark on a lecture tour which will cover important centers of France, England, Spain, Portugal, Hungary, Jugoslavia, Rumania, Turkey, Bulgaria, Greece and Italy.

J. D. Mooney, president of General Motors Export Co., and his executive assistant, E. W. Smith, are already in Europe and will attend the shows.

F. E. Moskovics, president of Stutz, will visit the shows in company with Col. Warwick Wright, Stutz British distributor, C. T. Weymann, originator of the Weymann bodies, and Ettore Bugatti, builder of racing cars.

Australia to Remain Best Export Market

NEW YORK, Oct. 5—Advances in the Australian tariff on American cars and trucks constitute an added impediment to sales but will not, in the opinion of exporters, impair Australia's position as the leading foreign consumer of American automotive products. The added 5 per cent duty on unassembled chassis will not, it is confidently believed, serve to overcome what has always been an overwhelming preference on the part of Australia for American cars and commercial vehicles.

The tariff on unassembled chassis from the United States is now 17½ per cent, an increase of 5 per cent, and on assembled chassis is 25 per cent, an increase of 7½ per cent. On exports of unassembled chassis from Canada this new schedule is 12½ per cent, an increase of 5 per cent, and on assembled chassis 20 per cent, an increase of 7½ per cent. From Great Britain unassembled chassis are admitted free, whereas assembled chassis are charged 5 per cent.

Last year Australia, from the United States alone, took 48,979 cars valued at $34,003,864 and 15,150 commercial vehicles valued at $10,329,966.

National Casket to Sell Kissel Funeral Cars

HARTFORD, WIS., Oct. 4—Kissel Motor Co. and the National Casket Co. have concluded a contract whereby the casket company will take over the national distribution of Kissel funeral cars. The new Kissel funeral car will be built on both six and eight-cylinder chassis and will be known as the National Kissel. National Casket Co., in addition to its 31 factories, operates 25 selling branches and has more than 200 travelling salesmen.

Sloan Goes Abroad

NEW YORK, Oct. 6—Alfred P. Sloan, Jr., president of General Motors Corp., will sail this week for Europe on a brief vacation trip. While in Europe he will visit the Paris and London shows, returning to the United States early in November.

Business in Brief

Written exclusively for AUTOMOTIVE INDUSTRIES *by the Guaranty Trust Co.*

NEW YORK, Oct. 6—Although trade and industry failed to disclose any further evidence of a definite fall trend in the past week, expansion of the country's credit facilities has continued, as indicated by the increases in the earning asset items of the Federal Reserve banks. Wholesale and retail trade appears to be fairly active while the basic industries as iron and coal are inclined to lag. The price of wheat advanced slightly last week, while corn was lower. Cotton prices were mixed, reflecting hesitancy pending this Saturday's government report. Sterling has advanced to a new high for the year and a firmer tone has developed in commodity prices. Brokers' loans again reached a new peak though lower prices were in the majority in the stock market. Money rates were virtually unaffected by the heavy quarterly interest and dividend requirements.

FREIGHT CAR LOADINGS

Railroad freight car loadings in the week ended Sept. 17 reached a new peak for the year, numbering 1,124,231, as compared with 989,472 in the previous week and 1,179,259 in the like period a year ago. Total loadings so far this year amount to 37,742,254 cars, as against 37,958,733 cars in the corresponding period last year and 36,771,919 cars two years ago.

PETROLEUM OUTPUT

Production of crude petroleum rose for the week ended Sept. 24, average daily output for that period being 2,534,100 bbl., which compares with 2,494,850 bbl. a week earlier and 2,170,400 bbl. in the corresponding period a year ago.

FISHER'S INDEX

Professor Fisher's index of wholesale commodity prices advanced last week to 145.5, as against 144.7 in the previous week and 142.1 four weeks earlier.

BANK DEBITS

Bank debits to individual accounts, as reported to the Federal Reserve Board for the week ended Sept. 28, were 10.7 per cent below the total of the preceding week and 19.7 per cent above the amount reported in the corresponding period of 1926.

FEDERAL RESERVE STATEMENT

For the same period the Federal Reserve banks reported that discounts rose $15,700,000, open market purchases $23,500,000, U. S. Government securities $10,800,000, note circulation $5,200,000, deposits $27,100,000. Reserves declined $7,400,000. Member banks for this period reported that discounts increased $49,781,000, investments $1,829,000, demand deposits $10,571,000, borrowings $8,765,000.

Time money and commercial paper rates were fractionally higher at 3¾ to 4⅜ and 4 to 4¼ per cent, respectively.

Dutch Rubber Group Studies Joint Sales

Would Control Prices Through Central Selling—British Suggest Move

WASHINGTON, Oct. 4—Dutch rubber interests have appointed a committee to study the possibility of creating a joint selling organization according to a report to the Department of Commerce by R. M. Tobin, American minister at The Hague. The committee is headed by F. P. J. Vester, director of the Netherlands Trading Co. The action is an outgrowth of proposals made by Eric Miller, representing British rubber growers. Mr. Tobin says in part:

"According to Prof. M. W. F. Treub, a member of the committee, the plan contemplates an agreement among the Dutch producers to pool their rubber and to market it through a central selling organization. To this nucleus of Dutch growers it is hoped to add the British growers in Java and Sumatra and thus control from 30 to 35 per cent of the total world production of rubber. An opportunity to join the Dutch organization would probably be given American rubber growing interests, but as they were both consumers and producers it is doubted if they could be persuaded to participate.

"Mr. Treub looks forward to the day when the selling organization will have become so well established and have so proved its value to the trade that the growers in the Malay States will petition the British Government to abandon restriction and form among themselves a growers' combination similar to that now contemplated for the Dutch possessions. In view of the common purpose of the two organizations, it is thought that they could be welded into a single unit controlling about 95 per cent of the world's rubber.

Still in Committee Form

"Although the plan for a selling organization for rubber is still in committee form, it opens up the prospect of restrictive measures for rubber produced in Dutch territory. The Dutch growers are not in favor of official restriction. They are, however, accustomed to the idea of voluntary restriction from their experience with quinine and their sugar syndicate is a tribute to Dutch ability to organize sales combines. The plan envisages primarily price control through a central selling organization, and the element of price stabilization was emphasized rather than restriction of output. Control of production would be only incidental to price regulation.

"It would seem, therefore, that this activity among Dutch rubber interests is in the nature of an effort to strengthen their position in anticipation of the day when adverse conditions in the industry will force an understanding between producers and manufacturers for the stabilization of production and prices. The Dutch feel that this is the ultimate goal, and they believe the time is approaching when mutual interest will dictate a voluntary association between the Dutch and the British producers of rubber."

Rubber Trade Here Doubts Development

NEW YORK, Oct. 4—Rubber trade circles here expressed doubt that an international selling organization of British and Dutch rubber producers, in which American producers would be invited to participate, will materialize.

It is not questioned that a scheme of this character would be agreeable to the British, who are troubled by the failure of the Stevenson restriction plain to maintain the price of rubber at a "satisfactory" level. But the Dutch have steadily declined to enter into restriction plans, because it was possible for them to make a small profit, even at the very low level prices which ruled when the British restrictions were adopted, and because they could not afford to place restrictions on the rubber grown by individual natives.

So far as American producers of rubber are concerned, it is pointed out that in almost every case the producer sells through a consumer, with every incentive to obtain rubber as cheaply as possible.

A cable dispatch from London yesterday said that the Colonial Office here would make no announcement of its future policy of restriction until the Stevenson committee submitted its report, which is due October 31.

Directors Ask Receiver for General Accessories

DETROIT, Oct. 3—A petition has been filed in the Oakland County Circuit Court by Frank B. Howard, Emil D. Moessner, Frank Briscoe and Wellington E. Blynn, stockholders and directors of the General Accessories Co., of Pontiac, asking that a receiver be appointed for the company and that it be dissolved.

The company was organized May 29, 1923, and was incorporated for $100,000. It engaged in the general manufacture and sale of automotive accessories. According to the petition the assets of the company total $190,412. Because there are rough materials which must be worked up if anything is to be realized on them, the petition asks that a receiver be appointed in order that the business may continue until such time as its affairs can be closed up.

Orders 600 G. M. Taxicabs

NEW YORK, Oct. 3—The Yellow Taxi Corp., New York, has placed an order with the New York branch of the General Motors Truck Co. for 600 new taxicabs, Model 06, powered by Buick engines. The new cabs will replace an equal number now in service.

Lincoln Nameplate Drops Ford Stamp

Changes Show Smaller Wheels and Tires—Horsepower Increased to 39.2

PHILADELPHIA, Oct. 4—Lowered bodies and increased power feature changes made in Lincoln cars now in the hands of dealers. An increase in bore of ⅛ in. has resulted in increasing the power from 80 to 100 hp. With the new bore and stroke of 3½ x 5 in. the N.A.C.C. horsepower is increased to 39.2 while the piston displacement is 385 cu. in. as compared with 358 formerly. As a result of this change acceleration and top speed have been materially increased.

A 2-in. drop has been achieved in the bodies by the use of smaller wheels taking 32 x 6.75 balloon tires as compared with 33 x 6.75 formerly, and decreased camber of the springs. The bodies remain virtually unchanged, however, although a new instrument panel has been incorporated in which the various instruments are centrally grouped and indirectly lighted. As formerly, the instrument board proper is of stainless steel without any surface coating. A change has also been made in the nameplate on the radiator shell consisting in the elimination of the word "Ford" from the emblem. This now has only "Lincoln," in an oval.

A slight change has also been made in the fenders which are slightly wider and deeper than formerly to carry out the lines of the lowered bodies.

While list prices of former models are continued, several new custom body models have been added. These include the following:

Model	Price
Club Roadster	$4,600
2-pass. Coupe	5,600
Berline	5,500
Limousine	6,000
Brougham	6,400
6-pass. Berline Landaulet	6,500
Cabriolet	6,600
Le Baron Cabriolet	7,000
Holbrook Cabriolet	7,200
Collapsible Cabriolet	7,300

Standard equipment continues as formerly and includes wood wheels, front and rear bumpers, hydraulic shock absorbers, spare tire and tire lock, automatic windshield wiper, dash gasoline gage, cigar lighter, rear traffic signal and clock.

Chrysler Offers Triplex Glass

NEW YORK, Oct. 3—The Chrysler Sales Corp., as a safety measure, is now prepared to offer Triplex glass as optional equipment on all models at a slight extra charge.

The manufacture of this glass was started in the United States last year by the Triplex Safety Glass Co. of New York. It is built of two layers of selected plate glass with a binding middle layer of pyroxalin plastic.

Tire Dealers Plan to Move to Akron

MILWAUKEE, Oct. 3—More than 1000 delegates are expected to attend the eighth annual convention of the National Tire Dealers' Association to be held at Louisville, Ky., Nov. 14-17, according to Sam T. Rowe, secretary-manager of the association, with headquarters in Milwaukee. The announcement also contains the news that headquarters of the N. T. D. A. will be moved from Milwaukee to Akron, immediately following the convention, at the conclusion of which Mr. Rowe will retire as secretary-manager.

The relocation will be made largely to place the association in closer contact with manufacturers to secure mutual benefits. The headquarters were established in Milwaukee two years ago with Mr. Rowe, a former tire delaer and one of the sponsors of the national association in charge.

Truck Tire Session Nov. 14

The Special Truck Tire Dealer division will hold its sessions on Nov. 14. The executive session of the association proper is dated for the morning of Nov. 16. In the afternoon there will be a round table on such topics as "National Accounts, Their Definition and Treatment," "Standardization and Simplification of Tire and Rim Sizes," "The Printed Consumers' Price List—Its Return," "Mail Order Competition," "Department Store Competition," and "Local Tire Dealers' Associations and Their Relation to the National Body."

Coming Feature Issues of Chilton Class Journal Publications

Nov. 10—Marketing Annual—Motor World Wholesale.

Feb. 18—Statistical Issue—Automotive Industries.

Motor-Wheel Entertains Tire & Rim Delegates

LANSING, Oct. 3—Credit managers and service representatives of the Tire & Rim Association of America, Inc., held their semi-annual meeting in Lansing this week as guests of Motor Wheel Corp. Companies represented were Motor Wheel Corp., Firestone Steel Products Co., Kelsey-Hayes Wheel Co., Rudd Wheel Co., Detroit; Jaxon Steel Products, United Motors Service Corp. and the Wire Wheel Corp. of America. Birney J. Adams, assistant secretary of Motor Wheel, presided at the sessions.

Sao Paulo Space All Sold

WASHINGTON, Oct. 4 — Seven American automobile companies will be exhibitors at the fifth annual Sao Paulo automobile show which runs Oct. 15 to 30, according to cable to the automotive division, U. S. Department of Commerce. The show promises to be a success as all available exhibition space is taken.

Guggenheim Fund Finances Air Line

NEW YORK, Oct. 3—The Daniel Guggenheim Fund for the Promotion of Aeronautics has authorized an equipment loan to finance the purchase of three multi-engined passenger carrying airplanes, to be operated by the Western Air Express, Los Angeles, between that city and San Francisco, on a three-hour daylight schedule over a route which, in accordance with the fund's policy, must be approved for passenger transport by the Department of Commerce. This is the first equipment loan to be made by trustees of the fund.

The three-hour flying schedule compares with 13½ hours by rail.

Elcar Builds Own Bodies

ELKHART, IND., Oct. 3—Ownership and full control of its body-building facilities is a material factor in making possible the presentation of 28 distinct models for 1928, the Elcar Motor Co. announces. Elcar bodies are produced practically as needed, so that the supply of bodies is regulated by the immediate demand for each model.

Motorcycle Sales Increase

SPRINGFIELD, MASS., Oct. 3—A marked increase in commercial motorcycles is reported by the Indian Motocycle Co. due in part to the introduction of a new and diversified line of bodies. Original designs are being produced for various lines of business.

Calendar of Coming Events

SHOWS

All Western Road Show, Los Angeles ..... March 7-11
American Road Builders Association, Public Auditorium, Cleveland..Jan. 9-13
Argentine .....Nov. 10-20
Automotive Accessories Association, Armory, Chicago .....Nov. 7-12
Automotive Equipment Association, Coliseum, Chicago .....Nov. 7-12
Berlin, Exhibition of Engineering Materials .....Oct. 22-Nov. 13
*Boston, Mechanics Bldg.....March 10-17
*Chicago, National Automobile Chamber of Commerce, Coliseum ..... Jan. 28-Feb. 4
Electrical and Industrial Show, Grand Central Palace, New York....Oct. 12-22
Glasgow .....Nov. 4-12
International Aircraft Show, Berlin ..... March 23-April 11
Lille, France, Exposition..Nov. 20-Dec. 4
London Passenger Car Show ....Oct. 14-22
London Truck Show .....Nov. 17-26
Montevidio .....Nov. 19-27
National Standard Parts Association, Convention Hall, Cleveland..Nov. 14-18
*New York, National Automobile Chamber of Commerce, Grand Central Palace .....Jan. 7-14
Paris, Grand Palais .....Oct. 6-16
Rio de Janeiro .....May 3-13
Salon, Automobile Salon, Inc., Hotel Drake, Chicago .....Jan. 28-Feb. 4
Salon, Automobile Salon, Inc., Hotel Biltmore, Los Angeles .....Feb. 11-18
Salon, Automobile Salon, Inc., Hotel Commodore, New York..Nov. 27-Dec. 3
Salon, Automobile Salon, Inc., Palace Hotel, San Francisco..Feb. 25-March 3
United States Good Roads Show, Des Moines .....May 28-June 1

*** Will have special shop equipment exhibit.**

CONVENTIONS

American Gear Manufacturers Association, Mt. Royal Hotel, Montreal ..... Oct. 20-22
American Road Builders' Assn., Hotel Hollenden, Cleveland .....Jan. 9-13
American Road Builders' Association, Banquet, Hollenden Hotel, Cleveland .....Jan. 11
American Society of Mechanical Engineers, First National Fuels Meeting, St. Louis .....Oct. 10-13
Associated Manufacturers of Fabric Auto Equipment, La Salle Hotel, Chicago .....Nov. 5
Automotive Equipment Association, Coliseum, Chicago .....Nov. 7-12
Berlin, Conference on Engineering Materials .....Oct. 22-Nov. 13
National Association of Finance Companies, Congress Hotel, Chicago ..... Nov. 14-15
National Foreign Trade Council, Houston, Texas .....April 25-27
National Hardware Association, Marlborough-Blenheim, Atlantic City ..... Oct. 17-20
National Research Council, Washington, D. C. .....Dec. 1-2
National Standard Parts Association, Hotel Hollenden, Cleveland..Nov. 14-18
National Tire Dealers' Association, Brown Hotel, Louisville, Ky..Nov. 15-17
Overseas Automotive Club, Inc., Monthly Luncheon, Hotel Astor, New York .....Oct. 13
Overseas Automotive Club, Inc., Overseas Visitors' Dinner, Stevens Hotel, Chicago .....Nov. 9
Overseas Automotive Club, Inc., Monthly Luncheon, Hotel Astor, New York .....Dec. 8
United States Good Roads Association and Bankhead National Highway Association, Des Moines..May 28-June 1
World Motor Transport Congress, London .....Nov. 14-17

N. A. D. A.

Chicago, Jan. 31-Feb. 2—Annual, Palmer House.
Chicago, Feb. 1—Banquet, Palmer House.
New York, Jan. 9-10—Eastern District, Hotel Commodore.

S. A. E.

National

Chicago, October 25-27—National Transportation and Service Meeting.
Chicago, Dec. 1—Tractor Meeting.
Detroit, Jan. 24-27—Annual Meeting.
European trip—Nov. 2-Dec. 12.
New York Sessions, October 18-20—Aeronautic Meeting.
New York, Jan. 12—Annual Dinner.

Sectional

Chicago, Oct. 11—Influence of Large-Scale User on Design and Construction of Automotive Equipment—R. E. Plimpton.
Cleveland, Oct. 17—Notes on Valve Spring Design—W. T. Donkin. Slow motion pictures of valve springs in action.
Detroit, Oct. 10—A Message of General Interest—John H. Hunt.
Indiana, Oct. 13—Commercial Aviation—G. M. Williams. Aviation Engines.
Metropolitan, Oct. 20—Airports and Their Relation to Commercial Aviation—Gen. J. F. O'Ryan. A Commercial Airport for New York—Hon. Wm. P. McCracken, Jr. Need for Design and Construction of Airports—Wm. E. Arthur.

Men of the Industry and What They Are Doing

Cadillac Executives Address Service Meeting

Service managers of distributors and dealers in the United States and Canada, and service representatives of General Motors Export Co. and Cadillac Motor Car Co., were guests of Cadillac at a factory meeting, Sept. 27 to 29. The meeting was called by H. M. Stephens, general sales manager, and was in charge of Nicholas Dreystadt, general service manager. It was the first general service convention since the introduction of the LaSalle last March and followed immediately after the introduction of the new Cadillac.

Speakers at the sessions were the following Cadillac officers: Lawrence P. Fisher, president; Lynn McNaughton, vice-president; A. U. Widman, works manager; Ernest W. Seaholm, chief engineer, and other members of the engineering staff; H. M. Stephens, W. W. Lewis, assistant general sales manager; F. T. Ellis, superintendent of manufacturing; L. A. Danse, metallurgist; and C. F. Kettering, president of General Motors Research Corp., O. T. Kreusser, manager General Motors Proving Grounds, and Benjamin Koether, of the General Motors sales division.

J. T. Spicer Gets Promotion

John T. Spicer has been appointed manager of the general automotive division of the Johns-Manville Corp. Mr. Spicer previously was manager of automotive replacement sales for Johns-Manville, having gone there from the agency business. In a previous connection he had been general sales manager of the Thermoid Rubber Co. for eight years.

Weyerbacher Heads Air Work

Commander R. D. Weyerbacher has been appointed manager of the naval aircraft factory at the Philadelphia Navy Yard, succeeding Capt. G. C. Westervelt, who retired last June. The new manager was graduated from Annapolis in 1909 and studied three years at the Massachusetts Institute of Technology. He supervised the construction of the Shenandoah at the Navy Yard.

Crittenden Leaves Lovejoy

George D. Crittenden has resigned as sales manager of the Lovejoy Mfg. Co., which recently sold its Lovejoy shock absorber to General Motors Corp. Prior to joining the Lovejoy company he was a car dealer in Boston. After a vacation trip he will announce a new connection.

A. N. Goodfellow Resigns

A. N. Goodfellow has resigned his position with the Nice Ball Bearing Co., with which company he was connected for the past 10 years. He has not announced his future plans.

Lawrance to Develop European Business

Charles L. Lawrance, designer of the Wright Whirlwind engine and president of Wright Aeronautical Corp., is sailing for Europe, Oct. 8, to look after the recent increase in foreign business attracted by the successful transoceanic flights of planes using this engine. American orders for the engine have doubled the expectation figures established in other years and the company is planning to purchase for $1,000,000 the plant at Paterson, N. J., which it has leased up to this time.

Study Refrigeration Abroad

Headed by C. F. Kettering, president of General Motors Research Corp., and E. G. Biechler, president of Frigidaire Corp., a group of General Motors executives will make an extensive survey of business conditions in Europe, with special reference to electric refrigeration. Mr. Biechler said that electric refrigeration business in this country and abroad has brought it to third place in the General Motors family.

Lolley Heads Indian Division

W. H. McKay Lolley has been appointed sales manager of the Indian Motocycle Co. division in charge of sales of the Indian inertia shock absorber. He was formerly a foreign representative in the interest of Timken products, later sales engineer for the Remy Electric Co., and more recently director of exports for the Standard Parts Co. of Cleveland.

Johnson Goes to San Francisco

Elmer A. Johnson, president of the Seattle branch of the Federal Motor Truck Co. since it was opened more than a year and a half ago, has been appointed head of the San Francisco branch of Federal. E. M. Long, formerly in charge of the Seattle wholesale department is now manager.

Hansen on European Trip

F. D. Hansen, secretary and general manager of the Federal Pressed Steel Co., Milwaukee, sailed Oct. 1, for an extended trip abroad.

Nash to Equal 1926 Earnings

Charles W. Nash, president of Nash Motors Co., who was one of several automotive executives to sail for Europe last week, said that in the year ending Nov. 30, 1927, Nash will show earnings about equal to those in 1926.

M. & A. M. A. Committee Prepares for Show Work

With the addition of two new members, the service equipment committee of the Motor & Accessory Manufacturers Association has been reorganized for the coming year. The committee will work with Neal G. Adair, manager of the sales development department, in the promotion and conduct of the service equipment sections of the national automobile shows and the Boston show and in distribution research work.

The new members are J. J. Burke, Brunner Mfg. Co., and Malcolm McCormick, Walker Mfg. Co. The holdover members are R. W. Procter, Black & Decker Mfg. Co.; B. M. Asch, Asch & Co., and H. M. Smith, Manley Mfg. Co.

Promotes Standards Officials

Dr. L. J. Briggs has been appointed assistant director of the Bureau of Standards in charge of research and testing, and Ray M. Hudson has been appointed assistant director in charge of commercial standards. Dr. Briggs also will continue to act as liason officer on matters of aeronautics.

Jones Joins Timken

John D. Jones has joined the steel division of the Timken Roller Bearing Co. as Detroit district sales manager. For 20 years Mr. Jones was connected with the United Alloy Steel Corp.

Ginsburg and Anderson Sail

A. A. Ginsburg, general manager, and Roy F. Anderson, chief engineer, of the Haynes Body Corp., have left for Europe to attend the Paris and London shows.

Bishop Dodge Franchise Extended to New York

NEW YORK, Oct. 3—The franchise of Bishop, McCormick & Bishop, Dodge Brothers dealers in Brooklyn and Queens, has been extended to include Manhattan, the Bronx and a portion of Westchester County, effective Oct. 29. The present holder of the franchise in Manhattan, the Bronx and Westchester county is C. H. Jennings, Inc., which has operated a chain of 30 sales and service establishments in the territory.

Bishop, McCormick & Bishop have about 15 establishments in Brooklyn and Queens. The president of the company is E. H. Bishop and C. M. Bishop is secretary and general manager. C. M. Bishop last year was a director of Dodge Brothers, Inc., under the plan whereby dealers are rotated as members of the board of directors.

C. H. Jennings was service manager of Dodge Brothers, Inc., previous to taking over the New York franchise.

Kelly Renamed Head of Battery Makers

Association Accepts Resignation of O. B. Towne—To Revive Standard Guarantee

NEW YORK, Oct. 4—The National Battery Manufacturers Association, which had its convention at Niagara Falls, Sept. 29 and 30, regretfully accepted the resignation of its commissioner, O. B. Towne, who will take an active part in church educational work. He has been very active in the promotion of the association and in bringing its membership up to the present broadly representative position. Mr. Towne was also identified with the management of the Asbestos Brake Lining Association.

The battery manufacturers reelected D. H. Kelly as president, and the following other officers: C. H. Smith, Westinghouse Union Battery Co., first vice-president; Ward S. Perry, Vesta Battery Corp., second vice-president; J. B. Perlman, Hartford Battery Mfg. Co., secretary; Paul M. Marko, Marko Storage Battery Co., treasurer; Leon A. Doughty, Carlile & Doughty Co., Inc., director, and J. D. Wanvig, Globe Electric Co., director.

The association adopted a recommendation that the standard guarantee for batteries adopted in May, 1925, be revived, and discussed the plan for a book of specifications for automobile batteries. Among the speakers were George C. Wilson, Remington-Rand, Inc., and W. R. Ingalls of the American Bureau of Metal Statistics.

To Finance Gramm Sales

DELPHOS, OHIO, Oct. 3—Papers have been filed with the secretary of state chartering the Gramm Finance Co., with a capital of 6000 shares of stock, to operate a finance company to aid individuals and firms in purchasing Gramm trucks. The company is permitted by its charter to deal in negotiable paper of all kinds. Of the capital 2500 shares are no par value common and 3500 shares are $100 par value preferred. Incorporators of the company are Joseph Jettinghoff, Rudy Jettinghoff and Arnold B. King.

Guarantees Used Cars

SAN FRANCISCO, Oct. 3—The H. O. Harrison Co., Chrysler distributor for this territory, announces that hereafter it will sell rebuilt cars of this make under personal guarantee as to condition as "Bonded Chryslers." According to H. O. Harrison, the new plan is to "enable the customer to buy a thoroughly rebuilt and guaranteed Chrysler with the same assurance that he would have in buying a new car." A permanent windshield sticker carries the copyrighted sign.

Lavaud Transmission Reported Sold Here

WASHINGTON, Oct. 3—Word has been received by the Department of Commerce of the sale of the Sesaud de Lavaud transmission system to an American manufacturer. The transmission, which was perfected by the French inventor, is covered by 27 patents in the United States, the advices declare. The feature of the transmission is the direct delivery of power from the engine to the wheels, the gear box and differential being eliminated. Speed is regulated by the gasoline throttle.

Dodge Brothers Earnings $6,820,971 to August 31

NEW YORK, Oct. 3—Dodge Brothers, Inc., net income for eight months ended Aug. 31, amounted to $6,820,971 after charges and Federal taxes, equivalent after allowance for preferred requirements to $1.19 a share earned on 2,435,023 no par shares of combined Class A and Class B stocks. Earnings in the full year 1926 were $25,412,000.

Current assets on Aug. 31 amounted to more than $47,000,000, of which more than $13,000,000 was cash and more than $5,500,000 marketable securities, comparing with current liabilities of about $18,000,000. For the four weeks to Sept. 24, passenger, commercial car and truck deliveries to customers by dealers, including export shipments, were 17,690 against 17,175 for the four weeks to Aug. 27, and 13,887 for the four weeks ended July 30.

5 Executives Dismissed in Fisk Rubber Shake-up

CHICOPEE FALLS, MASS., Oct. 3—Five executives of the Fisk Rubber Co. plant here have been dismissed following the reported failure of Harry T. Dunn, president, to find work justifying the appropriation of more than $1,000,000 for experiments and improvements.

The men whose connections are severed are J. D. Anderson, vice-president; C. W. Sanderson, chief chemist; F. B. Clark, purchasing executive; A. E. Trudeau, superintendent of power, and Thomas Midgly, inventor of a tire wrapping machine.

Czechs Drop Luxury Tax

WASHINGTON, Oct. 4—The 12 per cent luxury tax on automobiles in Czechoslovakia has been abolished, effective Oct. 1, this year, according to cable to the U. S. Department of Commerce. The new law also provides for a revision of the national taxes on motor vehicles, and taxes to create a road fund.

Shop Tool Makers to Extend Exhibits

Applications for Space at National Shows Indicate More Complete Displays

NEW YORK, Oct. 3—Early applications for space in the New York and Chicago shows, prior to the drawing for space this week, promise even more representative expositions than the record-breaking affairs last January and February. Applications are arriving at headquarters of the National Automobile Chamber of Commerce and Motor & Accessory Manufacturers Association from all division of the industry.

Especially keen interest in the coming exhibitions is being shown by the service equipment manufacturers, according to the M. & A. M. A. These exhibitors will have a section in each show to themselves, as was the case last winter, with the public excluded until 5 p. m. each day.

Several of the larger shop equipment makers in the M. & A. M. A. have applied for more space than they had last year, with the intention of making their exhibits more nearly resemble service stations with their equipment in use. Several applications have been received for more than 600 sq. ft. of space each, indicating the extent to which these manufacturers propose to go in demonstrating their lines.

The M. & A. M. A. is developing plans to enlist the cooperation of shop equipment wholesalers and their salesmen in the New York and Chicago areas to promote trade attendance and to work in the shop equipment exhibits with the manufacturers they represent. The association also plans to bring about cooperation of car and truck factory service managers and the service associations of the metropolitan areas to arouse trade-wide interest in the exhibits.

Join Rediscount Plan

NEW YORK, Oct. 3—American Rediscount Corp., through Laurence H. Hendricks, president, has reported 26 finance companies in 12 states admitted to membership since the corporation began business in April, 1927. Aggregate assets of the member companies are more than $30,000,000. Only about 40 per cent of the finance companies applying for affiliation were accepted, said Mr. Hendricks. The corporation has declared its initial dividends in full to date on its first and second preferred stocks.

Vellumoid Moves Offices

BOSTON, Oct. 4—The Vellumoid Co. has moved its main and executive offices from the Tremont Building, this city, to the plant at Worcester, Mass. There will be no change in the personnel of the company.

September Buying Shows Reduction—

(Continued from page 554)

conditions would be prospective used car buyers.

Ford dealers interviewed as to orders on hand indicate that the factory at a production rate of 150,000 to 200,000 a month will be under pressure for at least two months to meet these preferred orders. Slower production will require several months longer to work off the accumulated back-log.

Reports from leading trade centers follow:

NEW YORK

Automobile sales dropped rather sharply in the metropolitan area during September after a particularly good selling month in August. As the weather has been favorable, and as general business has continued good, there seems no specific explanation for the slump except that the impetus given to sales in August by new models and price cuts has spent its force. Sherlock & Arnold report new car sales in the first two weeks of September in the metropolitan area as 3375 cars against 4314 in the corresponding period of 1926, comparing with 12,294 for the entire month of August, 1927. Used car stocks have again begun to mount in the absence of active buying demand. The truck business, however, has been on a good seasonal basis in the lower tonnage classes, the heavy duty vehicles having failed to reach last year's level.

BOSTON

Motor car distributors and dealers found September sales below average the first week. Sales had been slow and they seemed more so because the latter part of August made a good showing. From about the tenth on, however, salesmen began to bring in orders in volume that made up for the slowness during the first week. Used cars began to move better in October and the truck men say sales did not drop off, thereby making the month one to instill the distributor with optimism for the rest of the year.

DETROIT

Looking forward to an excellent fall business, the automotive industry is confident that sales in October will be gratifying. Many buyers in the low-priced car field are still holding off to see the new Ford. Dealers who have taken advance orders for the new Ford are reported to be letting up on their campaign because of continued indefinite information on when the car will be announced. It is reported that some dealers, especially in the larger centers, have orders of this nature for several hundred cars each and are now beginning to hear many complaints from the public because of the continued delay in the new model. Used car stocks appear to be in a favorable position for this time of year.

ATLANTA

Due to the exceptionally high prices prevailing for most of the important southern crops, motor car and truck sales in the territory have continued to show steady expansion the past month, nearly all distributors enjoying a considerably larger demand than was the case during September, 1926, and further expressing the opinion that there will be no let-up in demand during October.

Chevrolet sales the past month were especially large, while cars of the Buick, Studebaker, Dodge Brothers class were the largest in three or four years for this period. Less substantial gains were reported by distributors of higher priced cars. Truck sales were proportionately larger than last year, but this has been the case almost every month since the first of the year. Ford dealers are disinclined to commit themselves as regards orders they have on hand for the new Ford car, but declare their sales the first few months after the new car is out will be considerably above their normal business.

NEW ORLEANS

Every car selling for less than $1,000 has slumped badly here due to the expectation of the new Ford model. Dealers have few actual orders on their books for the new Ford, but have a large number of sure prospects. Current belief is that the new Ford will compete with all cars below $1,200 price range. Used car market in good shape, but business in general here is very slow.

CHICAGO

September new car business in the Chicago territory is reported by dealers and distributors as ranging from 10 to 25 per cent better than in the same month last year. As compared with August, sales averaged approximately 10 to 15 per cent better. Used car sales are reported satisfactory and averaged approximately 10 per cent heavier than September, 1926. No one reports used car stocks greater than normal. Greater efforts to move used cars coupled with sounder merchandising are given as the reasons for this condition.

Ford dealers are accepting orders for future delivery of the new Ford in large volume. Most of them report that it will be at least two months after production starts before they will be caught up, if production is at the same rate as before the Model T was taken off the market. Should production be lower, it is believed from four to six months will be necessary for Ford dealers to return to a normal delivery basis.

DENVER

Automobile business was only fair in September. Denver and the state generally was lower than last year or August, but conditions are improving now. Light truck sales are good due to beet deliveries. Heavy trucks poor. Approximately 1500 advance orders for new Fords are reported by seven Denver dealers. All old stock practically cleaned out.

CINCINNATI

Motor car sales in Cincinnati territory showed perceptible drop in September. This is true, particularly, as regards new cars and is attributed to a great extent to close approach of the date announced for presentation of Ford's new car. An undercurrent of opinion evidences the feeling on the part of the public that the new Ford will have the effect of causing a price reduction that will be almost general. In addition prospective buyers in the low price market are awaiting the Ford offering for comparison with other low-priced cars before buying. Naturally the decreased registrations show more strongly among the four or five low-priced better known cars. Used cars are moving steadily, in much greater volume proportionately, than new cars.

Although influence of the Ford propaganda is reflected in the general falling off in sales, advance orders for the new Ford have not come up to expectations. Eleven of the 12 Ford dealers in Cincinnati report 870 advance orders. Of these approximately 55 per cent are clean sales, the remainder involving old Ford trade-ins. The same list of dealers have an annual quota of 6905 cars and expect their present quotas to be continued when the new line is put on the market. One Ford dealer declined to give out any information. The advance orders, annual quotas and percentages of trade-ins of the others follow:

	New Orders	Quota	Trade-ins
Bauer Auto Sales Co. ..	300	2200	60%
Wendell Pavey.....	25	400	60%
Universal Car Co.....	100	1200	none
H. J. Berning.....	90	600	65%
Norwood Auto Sales Co.	30	500	10%
Valley Garage.....	71	300	50%
Western Hills Motors Co.	40	360	50%
Price Hill Motor Co.....	45	250	15%
Cauldwell-Mulhauser Co.	25	360	70%
Elmwood Garage	22	335	none
Nat Jamison, Inc.....	72	400	90%

KANSAS CITY

Sales in Kansas City have been showing a decided improvement in the last 30 days. There is less inclination on the part of the public to "wait for the new Ford." This is demonstrated in increased sales on Whippets, Chevrolets, the 52 Chryslers, Oldsmobiles and others. Studebaker reports a new September record as does Chrysler and Buick. Ford dealers have been keyed to a high pitch for the last several weeks but the delay in the arrival of the new models is proving a big handicap in booking orders. No accurate figures are obtainable from dealers on the number of signed orders on file but most of them declare they have enough on file to equal two to three months normal deliveries. If the new car is placed on sale

—Ford Dealers Report Heavy Orders

before Oct. 15 indications are that it will be mid-winter before dealers can catch up with orders. Used car stocks in the hands of dealers are probably the lowest in five or six years for this time of the year.

MILWAUKEE

It is apparent that Ford prospects have become tired of waiting for the new model and are buying other makes. This is one reason why Milwaukee and Wisconsin dealers, apart from Ford representatives, are doing an active business which is keeping sales equal to or somewhat above a year ago. Prospects for the reaminder of the year are considered equally as good, regardless of whether the new Ford becomes a reality before the end of the year. Dealers are in better shape than a year ago in respect to new car stocks. Last year at this time sales were running into a slump while new car supplies were comparatively heavy. This year business has been holding up well and indications point to a continuance of a normal fall demand, with stocks of new cars described as comfortable. Used car stocks are heavy, but the movement is moderate, partly owing to the lack of new Fords and the excellent demand for used Fords. All Ford dealers have orders for the new model, but are not inclined to consider them very seriously, for the bookings are always contingent upon satisfaction with car and price "when, as and if issued."

CLEVELAND

The industry in Cleveland and the district continues to be under the power of the long delayed Ford announcement. Prediction of dealers through the month that the entire industry has slowed up was borne out by figures released which show a sharp drop of 35 per cent in new cars. Deliveries for September were 1889 compared with 2647 in September, 1926, and 2955 for August of this year. Used cars show a slight gain. A total of 8577 for the month compares with 8528 for September, 1926, and 10,792 for August, 1926. Big producers admit the general slowing up is due to Ford, and only in a few instances are dealers keeping up to par. Ford men report orders now on hand will keep them going for three months after announcement. Only 19 Fords were sold in Cleveland during September.

ST. LOUIS

Whether it is due to the public waiting for the arrival of the new Fords or for other reasons, automobile sales are slow in this district, being below normal for this season of the year. Ford dealers say that they have enough orders for the Ford product on hand to take care of all the cars they can reasonably expect to get for two months. These orders have been placed by Ford customers sight unseen in order to get preferred delivery when the models make their appearance. The used car situation is satisfactory, largely because of the few sales of new cars and the consequent small number of trade-ins. Used car stocks are below average for this time of the year. A peculiar feature of the used car market is the scarcity of second-hand Fords. Dealers say they can't be had because people who have Fords are holding onto them because they can't get new ones. Automobile men say that the public's anticipation of the new Ford has reacted unfavorably on the whole market and it is not expected that conditions will be much better until the new Ford is out.

DALLAS

Automotive business in Texas and parts of Oklahoma, Louisiana, New Mexico and Arizona showed some improvement over August. New car sales increased 6 per cent. Dealers are carrying fair stocks. Used car sales increased 4 per cent, but dealers are pretty heavily stocked. Truck sales were better in the rural districts. Equipment and accessory business was fair and tire trade good. Ford dealers report sufficient old Ford owners waiting arrival of new model to take first two months' supply. Dealers are impatient at the delay in delivery. Outlook for all lines better.

SEATTLE

Total sales for the Puget Sound district for the first nine months were 18 per cent off last year's level, with greatest loss in cars selling under $800 due to public holding off for Ford's new car. Few orders have actually been placed for new Fords, and public is not disposed to buy sight unseen. Demand from agricultural districts in Pacific Northwest this fall will be best in five years, and total sales for one year will not show 18 per cent loss noted for first three quarters. Truck sales picking up slightly.

SAN FRANCISCO

While exact figures are not obtainable, dealers believe September sales will show slight improvement over those of August, and considerable increase over those of September, last year. New car stocks are low but exclusive used car dealers are overloaded, largely because new car dealers have been very careful in trade-ins throughout this territory. Good used cars can be bought cheaper in California than at any time in the past 10 years. Orders for new Ford have not come up to expectations, and there is general feeling among dealers that delay in delivery of this car has hurt sales. Chevrolet is making concerted drive to sell all possible Ford prospects and the campaign probably has reduced orders for new Ford materially. Public generally feels that another price cut in Chevrolets and Stars will follow appearance of new Ford and many prospects are holding off for this reason. Buick again outselling all other cars in this territory as it did in July and August.

LOS ANGELES

While total registrations of southern California for September against September, 1926, show substantial decrease owing to the Ford situation, automotive business generally is moderately good, about paralleling August. Used car stocks are increasing. Amount of orders, with deposits on file, emphatically indicate complete Ford sellout for many months. The truck market is improving.

MINNEAPOLIS

The automobile business in the Northwest continues on a gain with good crops and grain flowing rapidly to terminals. Distributors are filling orders as fast as they are able and have not yet reached the demand. The buying power outlook is especially good in South Dakota and Montana, which were dubious states heretofore because of long continued dry weather. Dealers all expect a good fall. The used car situation continues to improve. Although Ford dealers, of course, cannot deliver cars yet they consider it a good sign that orders are so heavy without details of the new model being yet known. In the Twin Cities the dealers have from 100 to 125 orders each, or about a month's business ahead. The accessories business is "better than fair" in general. In some parts of South Dakota business is very good.

OKLAHOMA CITY

Business conditions in the retail car field here and nearby in Oklahoma have been highly commendable. All Oklahoma seems to be responding to sport cars and has been demanding them. Ford sales are astounding when the fact that the car has never been shown is considered. Fred Jones here announced a week ago that he had over two hundred advanced orders. Diegnan and Parrott have almost similar numbers. Right now light cars are predominating with cabriolets and convertible coupes showing gains.

Wilkening Locates Branch

PHILADELPHIA, Oct. 4—Henry Gerstley, treasurer of the Wilkening Mfg. Co., has recently returned from Europe where he established a British sales office at Birmingham under the management of G. H. Rodway. Complete warehouse stocks will be carried. The Wilkening company has under consideration the establishment of additional European branches, one of which probably will be in France and another in central Europe.

Steel Mills Oppose Discounts by Year

Practice Would Encourage Small Lot Buying is View —Prices Hold Steady

NEW YORK, Oct. 6—Some parts makers have let their steel purveyors very clearly understand their decided displeasure with a plan, now under discussion, for according differential discounts to consumers on a basis of their total annual steel takings rather than of the tonnage involved in individual orders placed at one time. In rating consumers on the basis of their annual steel purchases, most parts makers would rank lower than most motor car manufacturers, thus placing them at a disadvantage, compared with their customers, in steel purchases.

In some quarters the impression prevails that, whether a buyer is entitled to the 1.75 cents price on bars, is to be determined not on how many tons he is in the market for, but upon the extent of his purchases over the entire year. There has been much talk of this proposed innovation in determining who are large and who are small steel buyers, and the more it is discussed, the more obvious becomes the improbability, if not impossibility of its adoption.

Large consumers have always enjoyed certain advantages over smaller ones for the reason that all of their orders run relatively high in tonnage. If they are assured of a rating as large consumers, even though they split their takings into small lots, mills would be putting a premium on the very hand-to-mouth buying which they are seeking to eliminate. On the other hand, a consumer may on the whole be a small buyer, yet if he "bunches" his purchases, thus saving the seller money, he feels that he is entitled to just as low a price as a consumer with many times his purchasing power.

Then again, a buyer may be a very extensive consumer of one description of steel and a very light consumer of others. Shall his total steel purchases or the extent to which he buys of any one description be the governing factor in determining whether he is to be rated as a large or a small buyer?

Strip Steel Market Uncertain

Uncertainty continues in the market for hot-rolled strip steel because of efforts on the part of some mills to introduce a new system of tonnage discounts which is meeting with energetic opposition from other producers. Cold-rolled strip steel naturally is more or less affected by this development, but prices for the cold-rolled are fairly well maintained. Sheet prices may have been slightly shaded in some isolated instances, but full-finished automobile sheets continue to be contracted for in moderate tonnages by quality buyers at unchanged price levels. Sheet rollers are not particularly anxious for the conversion business that is being offered by a low-priced motor car manufacturer who has accumulated a considerable reserve of semi-finished steel.

Pig Iron—The market generally is very quiet. Automotive foundries appear to be more than abundantly supplied for their nearby needs.

Aluminum—Routine demand of rather light proportions features the market. Absence of resale metal proves that consumers have only been buying what they needed for current operations. In secondary metal circles, it is thought that virtually all of the No. 12 alloy involved in extensive scrapping operations has now been recovered.

Copper—Consumers show little interest. The market is marking time.

Tin—While prices have been very attractive of late, consumers appear to be waiting for futher declines before buying more liberally.

Lead—The market is dull, with second hands holding their metal at about the same price level as refiners.

Zinc—The market is quiet and easy.

Henry Says Speed Factor of Safety

WASHINGTON, Oct. 4—The foot on the accelerator and the brain behind it and not the speed capacity of the car will always continue the fundamental factor in sane and safe driving, according to an American Automobile Association bulletin over the signature of T. P. Henry, president. Manufacturers would do well to stress not mere speed as such, but if stressed, it should be rather as an indication of an operating margin which might serve the cause of safety and utility in emergencies, Mr. Henry said.

Rubber Lumber Offered by Goodrich for Planes

DETROIT, Oct. 1—A new use for rubber has been announced by the B. F. Goodrich Co. It is a rubber lumber, which has been called Aeroboard, designed for use in airplanes. Due to the softening characteristics of rubber under heat this material can be molded to all shapes without destruction of the original tensile strength. According to tests conducted by the Goodrich company the new product has practically the same resistance to breakage as wood of the same thickness, while in some cases the rubber lumber showed itself to be from two to five times stronger than wood. Its low moisture absorption quality recommends the material for flying boat construction while its resistance to the corrosive action of sea water is also of value. While the material is not being produced in commercial quantities as yet it is expected that such production will begin soon.

Delta Electric Buys Accessories Company

Operations to Be Moved to Marion, Ind., Later to Enlarge Facilities

CHICAGO, Oct. 3—The Delta Electric Co., Marion, Ind., has purchased the capital stock, patents and good will of the Accessories Mfg. Co., of Chicago, manufacturer of automobile lamp plugs and sockets, connectors, small lamps, switches, etc.

For the present the company will continue to operate from Chicago as the Accessories Mfg. Co., without effect on orders, shipments, etc. W. B. Stephenson, treasurer and general manager of the Marion company, has succeeded F. W. Todd as the head of the Chicago division.

Later the entire business of both companies will be moved to Marion. Carl L. Otremba, treasurer, and C. A. Bramming, superintendent, will move to Marion at that time together with all the skilled operating force. Marsh and Haggott, Stephenson Building, Detroit, will continue to represent the company in the Michigan territory. The same line of hard rubber plugs, sockets, connectors, small lamps and switches will be maintained and increased. Enlarged facilities and organization are contemplated to expand the business considerably.

Present officers of the Delta Electric Co. are J. W. Stephenson, president; Oscar S. Thompson, vice-president; D. D. Wellman, secretary, and W. B. Stephenson, treasurer and general manager.

Gasoline Stocks Lower Than Same Date in 1926

NEW YORK, Oct. 4—Stocks of gasoline, as a result of the record-breaking demand during August, decreased 5,614,000 bbl. for the month to a total of 33,455,000 bbl., according to the Bureau of Mines. Thus stocks on hand Aug. 31 were lower than on the same date of the previous year.

Gasoline production showed a slight decline from the previous month, while domestic demand remained at the high level attained in July, the August total of 29,779,000 bbl. being only 5000 bbl. below the preceding month.

China Sales More Active

WASHINGTON, Oct. 3—A total of 465 cars and 374 trucks were imported into China the first half of this year, according to figures announced by the automotive division of the U. S. Department of Commerce. The automobile market after a dull season shows signs of some activities, the Department is advised. August imports totaled 119, of which 81 were from the United States and 31 were American cars assembled in Japan.

Federal Aid Change Would Widen Roads

Increased Expenditures Per Mile Sought to Meet New Requirements

WASHINGTON, Oct. 6—A change in the Federal Aid road law will be urged with the reconvening of Congress under the terms of a bill, already prepared, to be introduced by Senator Oddie of Nevada. Under the present law the Secretary of Agriculture cannot spend more than $15,000 per mile under the Federal Aid program. This, in the opinion of Senator Oddie, is insufficient in states where the roads are mountainous and further because modern times require that highways be constructed wider.

"The growth of the automobile has been so phenomenal that the present law for Federal Aid is inadequate to meet the need for a bigger and better road building program," Senator Oddie stated orally. "Automobiles are increasing four times as fast as the road building projects are and we are far behind in highways. Wider and better highways are needed not only to facilitate movement of automobiles but in the interest of safety. Narrow highways are the cause of many accidents."

The bureau of public roads, Senator Oddie said, had approved his plans for authorization for the secretary to increase the $15,000 per mile Federal Aid and also for an increased road building program.

DeLaski Verdict Dismissed

TRENTON, N. J., Oct. 3—The Circuit Court of Appeals, Philadelphia, has set aside the verdict given the DeLaski & Thropp Circular Woven Tire Co., this city, in its suit against the Murray Rubber Co. The suit was to establish patent rights to tire-making devices in general use in the tire industry. Effort will be made for a review by the U. S. Supreme Court, according to DeLaski & Thropp counsel.

Financial Notes

Doehler Die Casting Co. directors have called for redemption on Nov. 1 the remainder of the 7 per cent serial debenture bonds due 1928-1930 still outstanding in the amount of $300,000. The original issue of these bonds amounted to $1,000,000, of which $700,000 have been previously retired. These bonds constitute the only funded indebtedness of the company.

Brockway Motor Truck Corp. reports for eight months ended Aug. 31, profit of $681,761 after depreciation but before taxes. The company also reports orders coming in faster than the ability to ship, with September business well ahead of September, 1926.

French Makers Act to Standardize Parts

WASHINGTON, Oct. 3—Standardization of automotive parts has been seriously taken up by French automobile manufacturers, according to cable to the U. S. Department of Commerce.

The cable says: "Led by a number of outstanding French engineers, notably Mr. Goodard, head of the Solex Carburetor Co., a movement is now underway in France toward the standardization of automobile parts and simplification of methods of manufacture.

"A study is being made preliminary to establishing a 'Bureau of Normalization.' The leading spirits in the movement believe that only standardization will allow the French automobile industry to maintain its rank in the world."

A. O. Smith Stockholders to Act on Stock Change

NEW YORK, Oct. 3—Announcement of the annual meeting of stockholders of the A. O. Smith Corp., Milwaukee, to be held in Eddyville, N. Y., Oct. 19, focuses attention on the phenomenal gain in the market valuation of this company in the last three years.

The slicing of a rich melon for stockholders is imminent, as the meeting will consider a proposal to increase the no par value common stock from 100,000 to 500,000 shares. A 5-for-1 splitup is, therefore, expected.

In 1916 the common stock of the A. O. Smith Corp. began to be traded in over-the-counter here in connection with the offering of preferred stock. Although the company has steadily increased its operations since then, as late as three years ago the stock had advanced to only $46 from its original price of $35. At that time trading began to accelerate so that about two months ago the stock was selling at around $225. Now the level is $350 bid, $375 offered, the new figures showing an increase of approximately 800 per cent in the last three years.

Income Doubles in 1927

MILWAUKEE, Oct. 6—The A. O. Smith Corp. reports net income for the year ended July 31 as $3,656,926, after interest, depreciation, Federal taxes and other charges. This was equivalent after 7 per cent preferred dividends and sinking fund reserves for preferred stock, to $24.78 a share earned on the 100,000 shares of no-par common stock. This compares with $1,727,298, or $12.05 per share of common stock, in the previous year.

$222,000,000 Profit Indicated for G.M.

Increase from $186,231,182 is Based on Expectation of Good Last Half

NEW YORK, Oct. 3—General Motors Corp. earnings for 1927 will total over $222,000,000, according to a forecast made by President Alfred P. Sloan, Jr. This figure compares with $186,231,182 last year and in both cases the figures are after interest and taxes. Equities and undistributed profits of subsidiaries are included.

The revised forecast by Mr. Sloan is to the effect that he looks to the company to earn as much in the second half of this year as in the same period of 1926, with the added hope that the second half will be a little better than 1926.

After provision for preferred and debenture dividends in 1927 of about $7,000,000, General Motors net for the common will be over $215,000,000 on the basis of the forecast, or more than $12.50 a share.

Reo 1927 Shipments Seen Reaching 50,000

LANSING, Oct. 3—Reo's record-breaking production and sales activities, which began last January, continued through September, according to official figures just released. Shipment of 4318 units in September not only sets a new record for that month but constitutes one of the biggest months in the company's history. Passenger car shipments of 2271 compared with 894 in September, 1926, and commercial shipments increased from 1709 to 2047.

Passenger car shipments since Jan. 1 are now well over 25,000, which is in excess of the combined years 1925 and 1926. Total shipments aggregating 37,594 in nine months since Jan. 1 are well in excess of shipments for Reo's biggest previous year. Indications are that total shipments for 1927 calendar year will approximate 50,000 units of which, for the first time since 1918, more than half will be passenger cars. The biggest previous calendar year was 1925, when 34,015 units were shipped.

Wolverine Sedan Lists at $1,295

LANSING, Oct. 1—A four-door, five-passenger sedan has been added to the Wolverine line of the Reo Motor Car Co. The new model which lists at $1,295 is finished in green lacquer. Upholstering and interior finish is in a light gray mohair type model. Swinging one-piece windshield, sun visor, cowl lights and cowl ventilator are included in the design. Standard equipment includes front bumper, rear bumperettes, hydraulic shock absorbers on the front springs, automatic windshield wiper, and dash gasoline gage.

Exports, Imports and Reimports of the Automotive Industry for August of Current Year and Total for Eight Months Ending August, 1927

	Month of August				Eight Months Ending August			
	Number	Value	Number	Value	Number	Value	Number	Value
	1926		1927		1926		1927	
Automobiles, parts and accessories	..	$22,103,634	..	$32,632,515	..	$219,025,847	..	$274,928,965
Electric trucks and passenger cars	15	16,552	11	19,800	57	94,586	80	151,709
Motor trucks and buses (total)	4,142	3,370,764	8,765	5,855,477	44,605	31,587,672	72,719	46,585,643
Up to one ton, inclusive	3,076	1,538,682	7,264	3,441,217	35,235	16,480,121	60,317	27,971,001
Over 1 and up to 2½ tons	908	1,318,716	1,274	1,732,434	7,984	10,486,695	10,736	13,707,229
Over 2½ tons	158	513,366	227	681,826	1,476	4,620,856	1,666	4,907,413
PASSENGER CARS								
Passenger cars, except electric (total)	16,130	12,193,019	23,294	16,865,153	159,641	117,480,643	202,473	147,894,651
Value up to $500, inclusive	5,485	2,130,794	4,133	1,483,395	64,815	24,691,162	48,520	17,949,460
Value over $500 up to $800	5,399	3,581,195	7,759	3,727,500	45,606	31,010,234	69,436	38,826,632
Value over $800 up to $1,200	4,014	4,179,237	7,748	6,433,329	37,606	39,621,244	56,516	48,925,811
Value over $1,200 up to $2,000	869	1,344,416	2,994	3,754,332	7,953	12,183,089	21,866	27,414,170
Value over $2,000	363	957,377	660	1,466,597	3,661	9,974,914	6,135	14,778,578
PARTS								
Parts, except engines and tires	..	....	..	....	..	....	..	....
Automobile unit assemblies	..	2,330,572	..	2,996,553	..	29,555,381	..	32,228,300
Automobile parts for replacement	..	2,686,293	..	5,427,391	..	23,854,633	..	33,584,238
Automobile accessories	..	688,182	..	620,692	..	6,562,764	..	5,670,153
Automobile service appliances (n. e. s.)	..	614,400	..	696,689	..	4,839,717	..	5,643,143
Station and warehouse motor trucks	9	9,589	12	13,860	116	121,288	196	138,336
Trailers	30	7,508	135	67,340	706	255,300	635	290,926
Airplanes, seaplanes and other aircraft	3	13,180	7	60,273	30	140,121	27	383,417
Parts of airplanes, except engines and tires	..	8,430	..	117,598	..	111,786	..	337,749
BICYCLES, ETC.								
Bicycles	326	8,915	378	9,324	3,766	111,916	3,236	89,030
Motorcycles	1,592	342,893	1,477	334,716	15,868	3,429,467	13,242	2,960,341
Parts, except tires	..	172,667	..	90,703	..	1,260,712	..	866,737
INTERNAL COMBUSTION ENGINES Stationary and Portable								
Diesel and Semi-Diesel	35	215,328	27	38,905	570	1,124,019	520	869,997
Other stationary and portable:								
Not over 10 Hp.	3,605	402,092	2,885	251,974	22,104	2,178,342	18,780	1,687,776
Over 10 Hp.	571	397,910	612	191,353	1,744	1,782,376	1,702	1,181,471
Automobile engines for:								
Motor trucks and buses	570	93,617	325	39,798	2,529	383,695	4,089	485,408
Passenger cars	5,598	724,635	5,898	807,651	97,116	9,506,473	77,655	8,328,863
Tractors	326	194,573	63	14,916	1,316	736,821	926	396,326
Aircraft	18	94,847	29	16,815	277	562,203	71	289,274
Accessories	..	388,129	..	185,446	..	3,007,639	..	2,454,446
IMPORTS								
Automobiles, including chassis (dutiable)	68	112,709	49	61,611	461	829,109	384	692,597
Other vehicles and parts for them (dutiable)	..	23,164	..	19,170	..	95,088	..	141,797
REIMPORTS								
Automobiles (free from duty)	15	39,520	18	22,552	110	170,148	133	198,171

French Car Tariff Remains Unchanged

PARIS, Sept. 19 (*by mail*)—Thousands of persons in France are convinced that American automobile manufacturers have the benefit of a 50 per cent reduction in import duties. This impression has been spread by incorrect newspaper stories and a false interpretation of a recent French government decision.

When the Franco-German treaty went into effect, a decree was issued making important changes in the French tariff. This did not affect automobiles, which still remain with a 45 per cent ad valorem duty. On many goods, however, among them being electrical equipment, there were increases which ran as high as 800 per cent. Such a storm of protest was raised by American interests here at these increases that the French government offered a reduction of 50 per cent on the maximum rates pending the signature of a commercial treaty with the United States.

Thought Friendly Action

The entire French press announced the 50 per cent reduction and left the impression that it applied to the entire tariff. *L'Auto*, a Paris automobile daily, stated that this concession applied to automobiles and gave a warning to French manufacturers to be prepared to meet strenuous American competition. The fact that this decrease was announced when the American Legion was arriving in France only strengthened the belief that it was a generous and friendly action on the part of the French government.

The fact is that there has been no decrease on any of the rates in force before Sept. 6, this year. The reduction applies only to the increased maximum rates. In many cases the 50 per cent decrease represents a 400 per cent increase.

700,000 Cars Inspected in Bay State Campaign

CHICAGO, Oct. 3—Appointment of 2265 official inspecting stations was announced at the end of the Massachusetts "Be a Lifesaver" campaign, conducted in that state by the greater market development division of the Automotive Equipment Association according to Percy E. Chamberlain, assistant director.

John J. Hall, Massachusetts zone manager of the A. E. A., reported that more than 700,000 inspection stickers had been given out to motorists. Each sticker means that an automobile has been tested in one of the official service stations and has passed every safety requirement.

Devises New Fuel Test

WASHINGTON, Oct. 5—The Bureau of Standards announces this week that it has devised a new method for determining sulphur in volatile fuels which makes testing easier and more certain and will indirectly make for longer life of automobile and other engines. The tests are made with a sulphur lamp and were perfected by H. T. Kennedy, physicist of the oil section of the bureau.

Belgian Car Makers Reported Combining

WASHINGTON, Oct. 3—The proposed consolidation of several Belgian automobile manufacturers is reported to the U. S. Department of Commerce by the American trade commissioner at Brussels. In a cable to the automotive division concerning the automotive situation there, he says:

"Ostensibly to acquire control of the Belgian market, Belgian manufacturers of automobiles are believed to be uniting. The Imperia company now owns considerable stock in the Auto-Metallurgique company where the Imperia will be produced and the Metallurgique car, now unpopular, discarded. It is also reported that one of Metallurgique's principal stockholders is said to have recently acquired large holdings in Minerva Motors, while F. N. and Excelsior are also considering a consolidation."

Handley-Page Pays Dividend

LONDON, Sept. 21 (*by mail*)—Directors of Handley-Page have decided to pay an interim dividend of 5 per cent. This is the first ordinary dividend paid since the concern became a public company just after the close of the war. The way to dividends was paved by the carrying through in the spring of a drastic scheme of reconstruction, whereby each of the 498,000 preference shares was reduced from £1 to 8s. and each of the 150,000 ordinary shares was scaled down from £1 to 1s.